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Journal of THE AMERICAN DIETETIC ASSOCIATION

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May 1953

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Frederick W. Haberman

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Rachmiel Levine

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M. K. Horwitt

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Thirty Thousand Bosses Every Day

Quality Food Production

Devoted Bedside Dietary Care

The Glucostatic Theory of Obesity

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VOLUME 29
NUMBER 5

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When a Dietitian Speaks[1]

FREDERICK W. HABERMAN, Ph.D.

Professor of Speech, University of Wisconsin, Madison

YOUR profession of dietetics and mine of public address were linked 2500 years ago by Plato, perhaps the greatest thinker and writer of all time. Plato was not complimentary to either of us. He said that in the management of the human soul, public address was a type of flattery which gives the mob what it thinks it wants and not what is good for it. So, in the management of the body, cookery (as he called it) is a type of flattery which supplies the palate with the pleasures of the appetite and not with what is really healthful. Later on, Plato changed his mind. He agreed that the "knack" of public address could become an art, provided the speaker would find the truth in his subject and give it a form adapted to his listeners. He would today be delighted to know that the "knack" of cookery has become the science of nutrition and the art of feeding people, that dietitians are concerned with discovering the truth in their subject and with giving it form adapted to recipients. Let us, then, after 2500 years link our professions again in the great project of searching for truth and giving it effectiveness.

COMMUNICATION DEFINED

When you, the dietitian, take whatever truth you have discovered in the laboratory or in the kitchen and put it into words, you are communicating. You must communicate if you wish to stake out a claim in other people's lives, to obtain the opportunity to practice and develop in your profession, to create an expanding universe rather than a contracting one for yourself and others—in short, to make the truth you have discovered effective.

I shall tell you first what I think the word *communication* means, what it covers, and what I intend to cover; second, I shall tell you how difficult it is to improve in the skill of communicating; and third, I shall tell you how simple it is to improve in that skill of communicating.

Whether used in the singular or in the plural, the word communication has been subjected to considerable manhandling. One definition of the word says that communication is "who says what to whom through what medium with what effect." This description is an adventure among the relative pronouns. I like better the definition of an eminent man in my field who says that communication is the "process of stirring up meanings." Communication takes place in a social situation. It happens only when two or more are gathered together. Its aim is to inform, to control, to stimulate; to obtain understanding, sympathy, delight, help; to arouse fear, hope, love, hate; to start action; or to stop action already started.

We use many different kinds of symbols in communicating. The painter uses the pictorial symbol to represent something as he sees it, to convey to you the meaning he finds in it, to arouse in you the emotions awakened in him, and even to stir you to some kind of action. In the same way, the composer uses the musical symbol, or the dancer the dynamic symbol of movement. All of you use these symbols at some time or other, if only to draw a map directing the visitor to your door, or to help Susie with her music lesson, or to demonstrate the best way to put up a pin curl. But the symbols you use every day of your life are those with which we shall deal here—the verbal symbols, whether spoken or written.

I intend to discuss only that form of communication by verbal symbols which we call public and private discourse. For our purpose, we shall assume that private discourse is simply public discourse in miniature, that there is little difference between a dietitian talking privately to the mother of a baby with a feeding problem and talking publicly to a roomful of such mothers.

DIFFICULTIES OF COMMUNICATION

How then, can you as dietitians improve your skill in private and public discourse? It is difficult; I do not exaggerate. Since communication is so central to human life, it is almost a truism that what improves a human being in any way whatsoever, improves his power of communication. Longinus, a Greek writer of the third century A.D., wrote that excellence in communication depended upon "grandeur of thought, on vigorous and spirited treatment of the emotions, and on skill in the arts of

[1] Presented at the 35th Annual Meeting of The American Dietetic Association in Minneapolis, on October 23, 1952.

expression." Buffon, a Frenchman who wrote two hundred years ago, said that to achieve excellence in communication, one had "to think deeply, to feel vividly, and to express clearly."

These definitions are almost precisely the same although separated by fifteen centuries. The first thing needful, they say, is thought, ideas, knowledge, information—preferably, the best or noblest thought. The second thing needful is sensitivity, awareness of feelings, emotions, sensations, motivations. The third thing is skill in the manipulation of words, sentences, voice, and action.

WAYS TO IMPROVE COMMUNICATIONS

In tackling the job of improving in communication, I have four suggestions for you.

First, when a dietitian speaks, she should find significance in what she has to say.

You are specialists in a world of specialists. No one is going to pay any attention to you unless you can invest your subject with significance to him. You must have facts, but you must interpret those facts in ways that will stir up meanings in others. A fact by itself is about as dangerous as a feather duster, but a fact attached to the cherished beliefs of the hearer is a feathered arrow.

Does the subject matter of your profession have significance? Just look at it. You deal with hunger and thirst, with beauty and ugliness, with health and disease, with economy and extravagance, with happiness and discontent, with life and death. Is it significant to save a housewife a hundred dollars a year on food bills? to establish a diet that will enable a man to do a day's work? to provide a noon meal that fills school children with enthusiasm as well as vigor? to make Hollywood pin-ups of our wives even when past forty? I avoid any reference to men past forty.

STRUCTURE OF A SPEECH

Second, when a dietitian speaks, she should arrange her ideas in simple order. You must give your speech structure. Structure is the silhouette of your speech. It should be tucked in here, let out there. Whenever my grandfather heard my grandmother or any of his numerous daughters (he had seventeen children of his own and had a hand in raising twenty-five altogether) complain that a newly purchased dress did not fit, he would roar out, "Put a gusset in it." The dress was tailored to fit the figure. Thus, also, the structure of the speech needs gussets or tailoring to fit the material.

Introduction

Let me give you a simple way to organize a speech —a way that has been found good for beginners and for experienced speakers alike. Take a clean sheet of eight and a half by eleven white paper. Near the top of the page and in the middle, write the word *Introduction*. Off to the left side, put down Roman numeral I. Here you will write down an opening sentence, some very simple, declarative sentence which is connected with your subject and is easy to say. For example, you might begin with: "Yesterday, I heard a lady say that a dollar doesn't go very far in a grocery store these days."

Now write Roman numeral II at the left of the page. The space opposite this numeral is reserved for the central idea of your speech phrased in one complete sentence. This sentence might be called the proposition of the speech, or the thesis. It is the speech in a nutshell. For example, the central idea might be: "A nutritious, varied, and even exciting diet can be economical."

Next write Roman numeral III on the left. This space is reserved for a summary of your speech. In this summary, which is the last part of the introduction, you roll out the main topics of your speech, the major divisions of the speech; you give us the three reasons why something is so. A summary has numerous advantages. It forces you to think out the speech in advance. It lets the audience know what you are going to talk about; they will like that. Furthermore, they get real joy in recognizing a point when you get to it. They can keep track of a speech and tell just about how far you are from the end. It keeps you in bounds. After you have finished the last point you have listed in your summary, there is nothing left to do but to sit down. They will like that, too.

Discussion

We have now finished with the introduction. Next, in the middle of the page write the word *Discussion*. The discussion is composed of two or more main headings which, taken together, make up the central idea of the speech. Since this is a new section of the outline, we begin numbering all over. The headings provide the pattern for a speech. One of the simplest of patterns is the chronological. It is frequently used by dietitians in setting up diets. A seven-day dietary plan has seven main heads; a ten-day plan has ten main heads, and so on. Another type is the topical pattern, thus: the fat man's diet, the skinny lady's diet, the undernourished child's diet. Finding the pattern is like finding the proper dishes in which to serve a meal. A pattern is the container for a central idea as a cup is for coffee, a platter for steak, a bowl for creamed corn.

Ending

There is one final word to put in the middle of your page. That word is *Ending*. Under this word, write a sentence or two which will end your speech quickly and gracefully.

STYLE IN LANGUAGE

Third, when a dietitian speaks, she should give style to her ideas.

Here you will work with words—the tools, the pots and pans of communication. Words are distinctively human; they can be as treacherous or as kind as the human beings who invented them. Words can explode like an atomic bomb or fizzle like two-for-a-penny firecrackers. There are 100,000 words in the latest Webster's collegiate dictionary and 550,000 in the unabridged. The possible combinations of these words into phrases and sentences are too numerous even to contemplate. You need not worry, in any case, that every expression has been expressed. Only the lazy or the mentally impoverished repeat the worn out clichés; for example, we sometimes hear: "In this campaign we should put our shoulder to the wheel, turn the rascals out, work for enlightened government. We should repudiate the smears of our opponents, remember the great traditions of our great party, get back to the grass roots, get down to fundamentals, and guide the ship of state safely through the rocks and shoals into a haven of peace, prosperity, and chickens everywhere."

Critics of poetry and oratory sometimes use the word *color* in describing an author's language. Dietitians use that word in a literal sense when applying it to meals. A meal should have varied color: brown, orange, green, red, purple—any color, all colors, not just one color. That is style. Language should have not just one color, but all colors, any color: purple, red, green, orange, brown. Imagination is required to select and combine them in appealing ways. But the same imagination that can pick peas, carrots, and tenderloin out of the freezing locker can certainly choose appropriate words from the dictionary where they tend to be frozen, or from the street corner where they come smoking hot.

Most speakers of our day, especially those engaged in political oratory, should put their styles on a diet. We have some cause for cheer, however. Whereas soft living in the last twenty-five years has increased the waistline of the average male by 4½ in., the radio, with its pressure of time limitations, has melted some of the obesity from the style of our orators. Style, like an athlete, needs to be kept in trim. Plenty of road work is required. I have five suggestions. (a) Start a diary. (b) Write more letters to your mother. (c) At lunch tell somebody an anecdote from the morning's happenings. (d) In the evening, study one written sentence taken from any source whatsoever. (e) Recall the movement of one conversation heard during the day.

DELIVERY

Fourth, when a dietitian speaks, she should deliver her words in a businesslike manner.

There is a mental aspect to delivery just as important as the physical but more often neglected. At the moment you deliver your words, you should have a full understanding of their logical and emotional meaning. And you should have an eagerness to get reaction from the audience, a desire to interest and to make them understand. Don't push too hard. Don't be transparently intense. Take it easy. Combine ideas, structure, style, and delivery in such a way that you get on with the speech. Show the audience, whether one or one hundred, that you mean business. Avoid apologizing for your inability and praising somebody else's brilliance. That's like trapping your audience in a movie theater to see one show, only to present a prevue telling them that next week's show is much better.

Making a speech is something like playing a game of ping-pong. In the game, a move from you elicits a move from the player across the table. In a speech, an idea delivered like a service shot is returned by a reaction from the hearer. This interplay is what makes speaking exciting and rewarding. You get most interplay when you speak extemporaneously from notes, least when you memorize or read from manuscript. There are times when a manuscript is required, but they are rare. Too much of today's speaking is the reading of ghost written speeches, by speakers who seem to have metamorphosed into ghosts themselves.

The physical aspects of delivery concern voice and action. As your first concern, be sure that you can be easily heard. In this day of public address systems, this problem is of far less magnitude than it was only a generation ago.

PLATFORM BEHAVIOR

It is virtually impossible to establish unalterable rules for proper platform behavior. We can cite examples of speakers who break the rules set up by previous theorists but who still make a million dollars. In our country, a million dollars can't be wrong; the rules must be. Nonetheless, I shall mention five suggestions for physical behavior on the platform.

(a) Be ready to act. Take a stance that distributes your weight almost equally on both feet. Women generally look better if they stand at a slight angle to the audience. Don't tie up your arms by folding them across the chest, or your hands by interlocking the fingers.

(b) Use furniture, but don't abuse it. If you stand behind a speaker's stand on a platform or behind a chair at a banquet table, use them because they are there. But don't lean on them. Leaning throws the body into awkward angles and ties up the arms and hands so that the impulse to gesture is smothered. Don't pound or beat the furniture. You set up sound waves that compete with your voice; besides, you might break something.

(c) The rhythm of the gesture must fit into the rhythm of the voice. The apex of power in the gesture coincides with the apex of power in the voice. Repeat this sentence several times with a different pattern of rhythm each time "To say that in this country the rogues must rule is to defy history and to despair of democracy." Now fit a gesture—any gesture at all—into the vocal rhythm. You will get the feel of this rhythm of gesture laid on top of the rhythm of voice if you will do just the opposite for the sake of experiment. Build a climax in voice, then bring the gesture in after the echoes have died away.

(d) Gesture must have strength. Try saying the sentence about the rogues in a loud voice, while letting the arms and hands flop limply around.

(e) Keep the gestures above waist height. When low in front, they tend to pull you into the orchestra pit. When low in back, they pull you into the chairman's lap. Keep the gesture easy, simple, small, and fairly close to the body.

It takes a good mind, a sharp eye for life, and an adventurous spirit to improve in the complex, distinctively human act of communicating. This program I have outlined will try your courage. But dietitians, with their various concoctions, try the courage of the rest of us. Indeed, Jonathan Swift once remarked, "He was a bold man who first ate an oyster."

BIOGRAPHICAL NOTES FROM THE HISTORY OF NUTRITION

Florence Nightingale—May 12, 1820—August 13, 1910

Florence Nightingale was undoubtedly one of the most outstanding women England ever produced. She was born at a time when a university education or any career for a woman was a sheer impossibility. She lived through almost a century and saw women gain social and economic freedom, and it was she who did as much or more than any other person to bring about these changes in women's status.

Florence Nightingale is known the world over as the founder of modern nursing; she may also rightly be called the first hospital dietitian. When she and her small band of nurses arrived at the Barrack Hospital in Scutari on November 5, 1854, she found hopeless confusion, opposition, lack of supplies, and almost a state of starvation of the patients. The next day she began to cook "extras" from food supplies she herself had brought. Within a week she had an extra diet kitchen established. Her courage, determination, and genius for organization brought about the eventual reorganization of the Purveyor's Department, establishment of a corps of medical orderlies, rearrangement and improvement of cooking and service of the soldiers' food, and the establishment of a medical school at Scutari. Throughout the whole period of the Crimean War, Florence Nightingale struggled against incompetence, intrigue, and opposition; and though she considered the Crimea only an episode in her life, the improvements she brought about in hospital care and nursing and feeding of patients marked the beginning of a new era.

Florence Nightingale was born May 12, 1820 in Italy in the city for which she is named. Even as a child she was interested in nursing sick animals and her poorer neighbors. At eighteen she traveled abroad and was described as a distinguished-looking young woman, tall and graceful, with thick brown hair, delicate complexion, gray eyes, high broad forehead, a sweet smile, and much personal charm. She read widely; had great powers of concentration, a passion for method and accuracy, and ability to organize and command; and was interested in contemporary politics, history, and religious and philosophic questions. For years her family opposed her desire to become a nurse, but eventually she was able to take some training at Kaiserworth in Germany.

After the Crimean War her health was damaged. She never appeared in public or made public statements, but her power was great; her rooms in London were known as "the little War office." She was the mind behind the scenes for many royal commissions; she collected facts, collated and verified them, drew conclusions, and wrote reports. Hospital plans, medical statistics, a training school for nurses, reconstruction of the Army Medical Department, and a sanitary code for India were some of the reforms she achieved in her lifetime. Best known of her writings is *Notes on Nursing; What It Is and What It Is Not* (1859). She devoted two sections to food and pointed out the common errors in current diets for the sick. She wisely said, "You cannot diet a patient from a book, you cannot make up the human body as you would a prescription."

Florence Nightingale died August 13, 1910. Her long life of ninety years was one of ceaseless activity for reforms. Though the last half was one of ill health, nothing could daunt her.

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Dietotherapy in Gout[1]

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DESPITE the venerable antiquity of gout as a disease, the intimate details of the metabolic disturbances associated with the disorder are only now being uncovered. The rational use of diet as a therapeutic tool depends, of course, on the state of knowledge of the metabolic disturbance and its consequences. Therefore, before describing the dietary aspects of the therapy of gout, let us survey the present picture of the disease, as far as we are able to do so at the moment.

URIC ACID METABOLISM

About a century ago, it was found that in the blood of gouty patients, uric acid could be detected, the same material which was found previously to be deposited in the solid state in and around joints and under the skin, in a form called *tophi*. With the advent of quantitative chemical methods, it was later demonstrated that all individuals have uric acid circulating in the plasma, but in the gouty the blood level is much higher. The development of the field of the metabolism of food stuffs led to the knowledge that in man, uric acid is one of the end products of the breakdown of nucleic acids which, *in vivo*, are associated predominantly with the proteins of the cell nuclei (Fig. 1). It is, therefore, understandable that in attempting to minimize uric acid production, a dietary regimen which is very poor in nucleoproteins was advocated and practiced.

Through the years, it has been demonstrated time and again that some individuals may have abnormally high uric acid levels in the blood for many years without any of the known clinical manifestations of gout. This is especially true of close relatives of patients with clinical gout. We distinguish, therefore, metabolic gout from the stage or phase of clinical gout characterized by arthritis, tendonitis, kidney lesions, and so on. The acute classical attack of gout bears no direct relationship to the level of uric acid in the blood; that is, an abrupt rise in uric acid is not necessarily the precursor of a gout attack. The oldest known, and still most effective remedy for an acute attack of gout is colchicine (the vinum colchicum of previous days), which has no effect on the blood uric acid level.

The traditional view of gout, preserved by novelists and cartoonists, as a disease caused by gluttony and "high living" is not correct. Many a lean, indigent clinic or ward patient has the disease which was thought to be the exclusive property of the obese, red-faced, profligate lords of the eighteenth century. Rather, it is a familial disorder of metabolism affecting predominantly the male. In this connection it is of interest to point out that the average blood uric acid level of women is lower than that of men of the same age group.

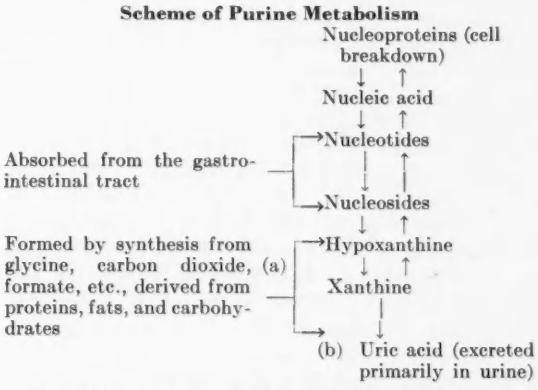

FIG. 1. *In gout, according to present knowledge, the metabolic disturbance may be placed at the points marked (a) and (b): (a) abnormally high synthesis of purines from precursors, and (b) an increased body pool of uric acid.*

PURINE METABOLISM

In recent years, more detailed knowledge has become available concerning the metabolic steps by which nucleic acids are formed and degraded in the organism (Fig. 1). It has been established that the purines are synthesized in the body from small molecules, such as glycine, acetic acid, and carbon dioxide. Since these starting materials are derived from the

[1] Presented at the 35th Annual Meeting of The American Dietetic Association in Minneapolis, on October 23, 1952.

metabolism of proteins, carbohydrates, and fats, it is evident that one cannot diminish very significantly the production of uric acid unless one would care to eliminate from the diet, proteins, carbohydrates, and fats. The logical consequence of such a dietary regimen would be a patient with a diminished production of uric acid who is expiring from starvation. With the use of uric acid, marked by isotopic nitrogen in its molecule, it has recently been established that individuals with gout have a large pool of uric acid, much larger than could be suspected from estimating the blood level of the material. It has also been shown by the use of marked glycine that in gout the rate of production of uric acid is faster than in normal individuals.

In man, uric acid is not broken down further to any significant extent. It is excreted largely in the urine. The daily excretion amounts to approximately 500 mg., and this amount is not exceeded in most individuals with gout. Certain drugs can increase its excretion. The salicylates are one such group of drugs; the other is "benemid." These materials are used in the therapy of gout with a view toward diminishing the increased "pool" of uric acid which is circulating or is deposited in the body.

Among the items of food and drink which have been forbidden or restricted to patients with gout are coffee and tea. These extracts contain xanthines which are metabolized to "uric acid" and one can determine by the usual chemical procedures an increase in "uric acid" excretion after the ingestion of coffee or tea. However, the ordinarily used chemical methods are not very specific. Coffee and tea contain methyl-xanthines which are converted to *methyl-uric acid*. This compound, although it gives the same color reaction as *true uric acid*, does not have the same biologic significance. It is never found in the deposits under the skin or in joints. There does not at present seem to be too much justification for the restriction of these drinks in the "gout" diet.

There are indications in the literature that acute attacks of gout are associated in some cases with the ingestion of certain foods or drinks. In other words, a gout attack may be elicited as a manifestation of a "food allergy." In such instances, of course, the elimination from the diet of the offending substance is helpful.

DIET THERAPY FOR GOUT

On the basis of the above discussion of our present knowledge of the metabolic aberration in gout, the rational approach to diet therapy may be summarized as follows.

Caloric Requirements. In view of the generally unfavorable effects of obesity on the state of the cardiovascular, renal, and other systems of the body, the caloric intake should be calculated to prevent or reduce obesity.

Protein Intake. Since glycine and other amino acids supply the nitrogen for the purine nucleus (Fig. 1), the protein intake should be as low as it can be made without incurring a negative nitrogen balance. About 0.75 gm. protein per kilogram body weight is required. While it is not necessary to be extremely rigid, it is wise to exclude organ meats, such as pancreas and liver, in order possibly to diminish a rise in the total body pool of uric acid.

Fat Intake. This should not be high, because it has been observed that a high-fat intake seems to predispose to acute attacks of gouty arthritis.

Carbohydrate Intake. This should make up the caloric requirements.

There is at present no indication that any specific disturbance of vitamin or mineral turnover exists in gout. No specific attention is, therefore, indicated in this area of nutrition.

It should be apparent that present and future studies of the various aspects of gout may and probably will modify our outlook. In medicine we should always be prepared for that.

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Approach to the Patient

It is important to realize that the mere prescription of a diet is never adequate. The diet must be acceptable to the patient so that he will eat it—sodium or other restriction through starvation is harmful. It is here that the nurse, doctor, and dietitian must cooperate closely. Diet therapy poses many more problems than administering drugs. The physician must explain to the patient and his family the need for the particular diet and he should give them some idea of how long the diet will be necessary. The nurse should encourage the patient to eat and help him to remain on the prescribed diet. The dietitian should prepare the diet as attractively and with as much imagination as possible. The patient should be consulted about his likes and dislikes, if feasible.

If he goes home before the therapy is completed, he and his family must be carefully instructed about the importance of the diet, how to prepare it, and how to avoid any pitfalls. It may be wise to have the person in charge of this treatment at home return to discuss the problems which have arisen after a week at home.—*Lawrence Greenman, M.D., in The American Journal of Nursing 53: 445 (April), 1953.*

Dietary Requirements of the Aged[1]

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GROWTH of the specialty of geriatrics in the future has been likened to the past growth of pediatrics. The impact of the newer nutritional knowledge on the practice of pediatrics and the associated activities of the food technologists is too well known to need further comment. Whereas the infant is in the unfortunate position of having to eat what is given to him—often in a form which is not too appetizing by adult standards—the old man usually has a will of his own which can be exerted to counteract any identification with the need for special foods which might publicize his disability. The problem then is how to induce the older individual to choose and to like that which is good for him.

Controlled research on nutritional disorders of older individuals (1) at Elgin State Hospital has not produced any evidence that the basic nutritional requirements of the healthy old man are essentially different from those of younger individuals. Nevertheless, it must be recognized that a real problem exists in maintaining the nutritional health of the older members of our population. Aside from the fact that a large percentage of older individuals may have some pathology and must have clinical prescriptions specific for their ailments, it is important to understand the psychologic, economic, administrative, and dental problems of getting food past the oral cavity of the aged.

There is little doubt that more signs of nutritional inadequacy may be found in older men than in younger individuals, but there is no reliable evidence to indicate that such deficiencies are due to an increased requirement of nutrients. The quest for food being less of a stimulating experience, there is a gradual deterioration in the will to extend oneself to prepare or to seek a good diet. Thus, these women and men represent the market so many food manufacturers are discussing. What can be marketed in a form which is small enough for a single serving, is nutritionally adequate, and which is acceptable to the older adult?

[1] Presented before the Institute of Food Technologists in Grand Rapids, Michigan, on June 10, 1952.

WHAT IS OLD AGE?

To understand the problem better, it is necessary to describe first what we mean by old age. What are the physical criteria of old age? Carlson (2) lists these as follows:

(a) Gradual tissue desiccation.

(b) Gradual retardation of cell division, capacity of cell growth, and tissue repair.

(c) Gradual retardation of tissue oxidation, i.e., a lowering of the basal metabolic rate.

(d) General cellular atrophy, increased cell pigmentation, and fatty infiltration.

(e) Gradual decrease in tissue elasticity and degenerative changes in the elastic connective tissue.

(f) Decreased speed, strength, and endurance of skeletal neuromuscular reaction.

(g) Decreased strength of cellular muscle.

(h) Progressive degeneration and atrophy of the nervous system, impaired vision, hearing, attention, memory, and mental endurance.

Measurements according to these criteria show that there is no one age when all functions begin to decline. The peak of some abilities are reached in the twenties, of others in the forties. Stieglitz (3) has stated, "Aging, which continues throughout the span of life, progresses far more rapidly in the beginning than at the end; the rate of change is greatest in the fetus, less in the infant, still less in the child and after maturity becomes so slow as to be perceptible only by observations spaced widely apart."

One of the more important factors affecting the nutrition of the aged is the loss of teeth and the absence of good dentures. Many of the food choices of older people are more a function of the availability of adequate masticating machinery than of the aging process *per se*.

What kind of research is going to produce the theoretical basis for the practical solutions? Obviously it would be difficult to observe the gradual changes which take place in the individual over a period of sixty years. The changes which may develop in an old man during an average research project are often too small to evaluate correctly.

However, if groups of relatively young subjects and older subjects are studied simultaneously, some evidence of differences which are indicative of changes which have occurred in the older individuals may be obtained.

It has previously been reported (4) that the levels of glucose and of the by-products of carbohydrate metabolism in the blood will vary with an individual's nutritional state and with the rate at which carbohydrates are absorbed from the gastrointestinal tract. In the hope that something can be learned about rates of absorption and metabolism, comparisons were made of glucose, lactic and pyruvic acid levels after intravenous and oral administration of glucose.

Information on the rate of removal of orally administered glucose from the blood stream can indicate the total time required for absorption of carbohydrates from the gastrointestinal tract by the tissues. Since the gastrointestinal tract is by-passed when glucose is given intravenously, the intravenous glucose tolerance data can be compared with the oral glucose tolerance data to obtain an estimation of relative rates of absorption from the gastrointestinal tract.

Tests of the efficiency with which older men absorb and retain some of the vitamins can be obtained by comparing their urinary excretions during periods of supplementation after intervals of depletion, as well as during periods of depletion after periods of supplementation. This technique is not much different in theory from studies of protein requirements in which nitrogen intake and the excretions of nitrogen compounds are studied.

More significant, from the practical point of view, are observations of clinical changes in these individuals during long periods of nutritional deprivation, and of rates of recovery when the missing nutrients are returned to the diet.

The chemical and microbiologic methods used in these studies have been described by Horwitt *et al.* (4, 5). The details of the diets and of the clinical and neurologic tests used have also been described in previous reports (5–7).

CARBOHYDRATE METABOLISM

In the studies of glucose absorption and metabolism, 0.8 ml. of 50 per cent glucose per kilogram of body weight was administered intravenously. Blood samples were withdrawn before and 30, 60, and 120 min. after the injection. Tests of the oral administration of glucose were conducted with 9 ml. of 20 per cent glucose for each kilogram of body weight. This dose was chosen to allow a large enough oral load to raise the blood levels close to the high peaks obtained during the first hour of the intravenous administration. When glucose was given orally, blood samples were taken for analysis before and 60, 120, and 180 min. after ingestion.

Figure 1 illustrates the comparative glucose tolerance curves of nineteen old men and thirteen young men who averaged seventy and thirty years of age, respectively. All of the average blood glucose levels of the older men were higher than those of the younger men at comparable times. The apparent impairment of glucose tolerance which one often observes in an older individual is accentuated here by the size of the glucose dose. However, the spread between the curves obtained for the young and the old does not indicate any impairment of glucose absorption from the gastrointestinal tract.

The pyruvic acid levels in the blood (Fig. 2) can usually be closely related to the glucose levels. However, the pyruvate results obtained on the old men after the intravenous glucose administration lagged behind the blood glucose levels obtained simultaneously, indicating the presence of a metabolic deficiency not seen in the younger men. Similar increases in the lactic acid levels (Fig. 3) further indicate that under the conditions of the experiments the by-products of carbohydrate metabolism accumulated in the old men at a rate which is greater than the ability of the organism to remove them from the blood

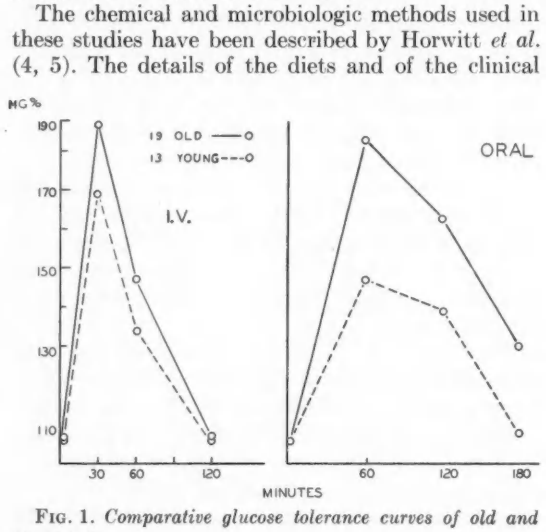

FIG. 1. *Comparative glucose tolerance curves of old and young men.*

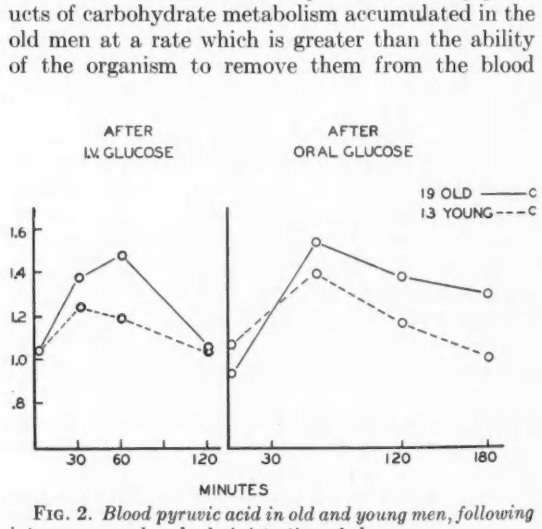

FIG. 2. *Blood pyruvic acid in old and young men, following intravenous and oral administration of glucose.*

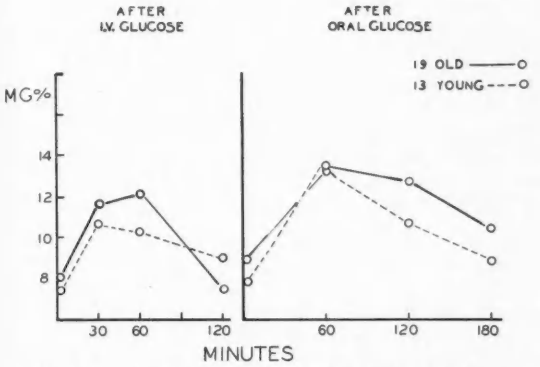

FIG. 3. *Lactic acid levels in the blood of old and young men following intravenous and oral administration of glucose.*

stream. Whether this is due to the higher levels of glucose in the old men, or whether the higher levels of glucose are themselves a result of the slower catabolism of carbohydrate cannot be proved with the information at hand.

VITAMIN REQUIREMENTS

Evidence that the old man is able to absorb his nutrients and to retain them as efficiently as the young man can be obtained by comparing the data accumulated during a study of thiamine depletion. Six older men who were 71, 62, 66, 78, 65, and 81 years of age, respectively, and five young men who were 44, 30, 36, 28, and 30 years of age, respectively, were fed a diet which, together with the supplement, provided 4 mg. thiamine and 3.1 mg. riboflavin per day. At the end of two years on this regimen, the intake of these individuals was restricted to a diet which contained 0.2 mg. thiamine and 0.75 mg. riboflavin. Figure 4 illustrates the rates at which the young and the old individuals decreased their urinary excretion of thiamine and riboflavin during the first three months on the depleted diet. Starting from a daily thiamine excretion of 2 mg. per day, which represents about 50 per cent of the 4 mg. then being ingested, there was a sharp drop in the amount excreted during the first month to levels of less than 0.02 mg. per day. A minimum level of approximately 0.01 mg. was attained after three months. Although the average excretion values for the old men were a bit lower than those obtained for the young men, there was sufficient overlapping of the individual results to indicate that small differences in the averages were not significant.

Similar information obtained from the study of the riboflavin excretion also showed that the old men retained riboflavin as long as the younger men. Starting from an initial excretion of 1 mg. riboflavin, the urinary excretion of the subjects decreased rapidly to levels of less than 0.08 mg. riboflavin per day.

The relative severity of the dietary depletion of riboflavin was not as great as that for thiamine.

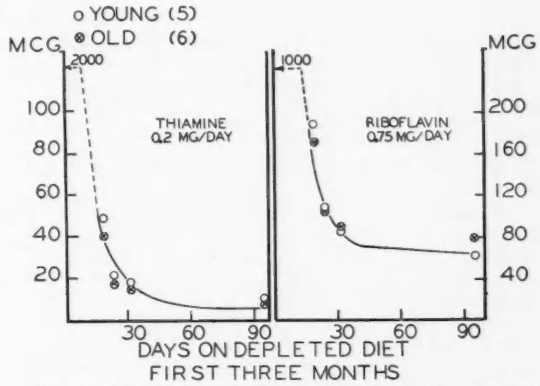

FIG. 4. *Rate of decrease in 24-hr. urinary thiamine and riboflavin of old and young men during first three months on diet depleted of these vitamins, after two years of supplementation.*

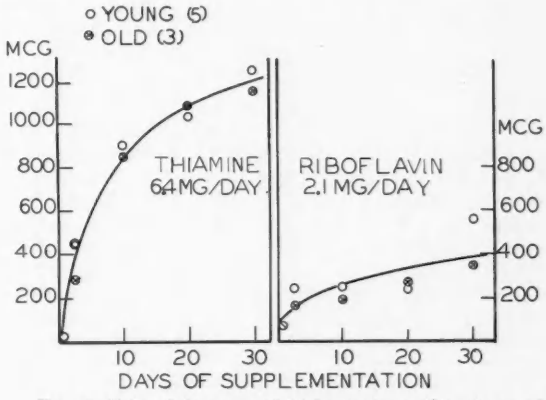

FIG. 5. *Rate of increase of 24-hr. urinary thiamine and riboflavin of old and young men following supplementation with these vitamins after three months of depletion.*

Thus the urinary excretions of riboflavin did not go as low as some we have reported elsewhere. The classic pathologic signs of thiamine deficiency did not become evident until after the urinary excretions had reached their lowest levels. The recognized signs of riboflavin deficiency did not appear on this diet.

Some information about the comparative thiamine and riboflavin saturation rates for young and old men can be obtained from the curves of urinary excretion in Figure 5. After clinical signs of thiamine deficiency, such as loss of tendon reflexes, edema of extremities, and the elevation of blood lactic and pyruvic acids had been substantiated, the subjects were given a supplement which together with their previous basal diet raised their thiamine and riboflavin intake to 6.4 mg. and 2.1 mg., respectively. The thiamine and riboflavin excretions increased without any apparent differences between the young and old men.

Current studies on niacin and protein requirements, similarly, do not indicate a difference in the

TABLE 1

*Essential amino acids in urines of subjects on controlled diets**

AMINO ACID	AVERAGE INTAKE	AVERAGE EXCRETION	
	gm./day	*mg./day*	*%*
Arginine	3.0	17.7 ± 3.8	0.62 ± 0.13
Histidine	1.9	66.9 ± 26.0	3.5 ± 1.3
Isoleucine	3.1	10.0 ± 2.9	0.33 ± 0.09
Leucine	4.5	15.5 ± 4.2	0.33 ± 0.10
Lysine	3.1	16.3 ± 6.6	0.56 ± 0.22
Methionine	1.2	6.3 ± 1.2	0.54 ± 0.11
Phenylalanine	2.9	13.0 ± 3.4	0.47 ± 0.14
Threonine	2.6	20.2 ± 7.4	0.78 ± 0.27
Tryptophan	0.52	11.6 ± 4.1	2.4 ± 1.1
Valine	3.0	19.0 ± 5.4	0.62 ± 0.17

* Three-day collection on 20 subjects.

TABLE 2

*Excretion of amino acids by two age groups**

AMINO ACID	OLD MEN (61 to 79 yr.)	YOUNG MEN (27 to 45 yr.)
	mg./100 ml.	*mg./100 ml.*
Arginine	19.7 ± 3.6	16.4 ± 3.2
Histidine	68.5 ± 28.0	64.9 ± 21.0
Isoleucine	10.6 ± 2.8	9.7 ± 2.9
Leucine	16.5 ± 5.1	14.3 ± 2.6
Lysine	19.4 ± 6.6	13.7 ± 3.9
Methionine	6.5 ± 1.3	5.8 ± 1.0
Phenylalanine	14.0 ± 3.7	11.8 ± 2.0
Threonine	20.7 ± 5.0	19.6 ± 10.0
Tryptophan	12.9 ± 4.9	9.9 ± 3.2
Valine	20.4 ± 5.8	17.4 ± 4.4

* Three-day collection after 3 yr. on 58 gm. protein per day.

requirements of the young and the old for these nutrients.

PROTEIN METABOLISM

The basal diet used in the majority of our studies provided less than 60 gm. protein per day of which less than one-half was animal protein. Losses of weight were not apparent in either the experimental or control groups as long as the individuals consumed the food which was given to them. Since these experiments ran for three years, it may be estimated that the subjects were not in negative nitrogen balance on the amounts of amino acids provided.

To obtain data on the essential amino acids excreted, a diet which had been fed under controlled conditions for three years to eleven old men and nine young men was analyzed for its amino acid content. These amino acids were also analyzed in a 72-hr. urine collection from these individuals so as to distinguish whether differences due to age could be observed (8). In Table 1 is presented the average daily intake and excretion of the essential amino acids of all of the subjects. Note that with the exception of histidine and tryptophan, less than 1 per cent of the amino acids ingested were excreted. Data are also presented in terms of age in Table 2. Comparison of the two columns of figures indicates what appears to be an increased excretion of the essential amino acids by the older men. Since the average older man was heavier than the average younger man, it was necessary to relate the size of the excretions to the body weight. In Table 3 such a comparison is made, indicating that there was a correlation between weight and increased excretions. The significance of these data are not at the moment apparent. The amino acids excreted represent such a small percentage of the amount ingested, it is doubtful whether such studies are useful in providing data on protein requirements.

TABLE 3

Comparison of relative amounts of amino acids excreted with age and body weight

SUBJECTS	AGE	WEIGHT	NUMBER OF DETERMINATIONS AT DIFFERENT LEVELS OF EXCRETION		
			Upper third	Middle third	Lower third
	yr.	*lb.*			
Old (11)	61–79	147 ± 14*	124	89	72
Young (9)	27–45	130 ± 10*	50	84	108
Heavy (10)		139–175	102	84	72
Light (10)		113–137	72	89	108

* Standard deviation.

More recent studies have indicated that older as well as young men can be in positive balance on less than 40 gm. protein per day, and that whether or not they are in positive nitrogen balance on a given diet is due more to the amount and kind of protein fed during the months prior to the test period than to the actual level of protein in the experimental diet.

A group of thirty-one individuals who had been on a daily diet which contained 11 gm. nitrogen and who were in obvious positive balance were placed on a diet which provided only 6.5 gm. nitrogen per day. Practically all of these subjects immediately went into negative nitrogen balance in an amount approximating 0.5 gm. nitrogen per day. However, during the next three months on this diet all of these subjects went into positive balance and remained so during the succeeding six months. While a few of the younger men lost about 5 lb., the average weight loss during this period was less than ½ lb. per subject. There was no indication that the older men required more or less protein than the younger men. This casts some doubt on results of nitrogen balance where the habit-pattern of previous protein intake is not taken into consideration. These observations should be interpreted with caution because

evidence of liver dysfunction in both young and older men was noted on the low-protein diet (9).

There is no evidence to indicate that the healthy older man cannot absorb the water-soluble nutrients at a satisfactory rate. Our work has provided no data to prove that his basic requirements are greater. Therefore, there seems to be no justification for beliefs that under normal conditions, he should have larger intakes of vitamins and proteins than the young man.

PROBLEM OF HABIT PATTERNS

The problem is not one of altered requirements, but rather of altered habit patterns which cause a decrease in the amounts of nutrients ingested. It is true that many older people are in poor nutritive state, but the recognition that these deficiencies are not due to different physiologic needs should prevent dosing with excess vitamins and proteins. Such nutrients when fed in excess must be metabolized, conjugated, and excreted, which provides work but no apparent benefit to the aging tissues.

PHYSIOLOGIC CHANGES

Our comments to this point have been carefully restricted to the healthy old man. An old man with a deficiency of one or more of the vitamins is not healthy, and when such a deficiency does occur, it can be shown that there are definite biochemical and clinical differences between young and old.

Of primary significance is the fact that levels of blood lactic and pyruvic acid rise to higher levels during early thiamine deficiency in old men. Though these increases can be related in part to the higher levels of glucose, high levels of pyruvic acid may cause considerable physical discomfort and may be related to the fact that nearly all the old men on the diet which provided only 0.2 mg. thiamine per day lost their appetites before the younger men. Appetites as well as the levels of blood lactic and pyruvic acids were spectacularly repaired in less than a week when thiamine was supplemented. Other symptoms of thiamine deficiency, such as edema and loss of tendon reflexes, did not seem to appear any sooner in the old. Recovery rates from edema of face and extremities was apparently the same in both old and young. However, the return of lost Achilles tendon reflex was particularly slow in the old men; in one case, it did not return until after eighteen months of supplementation.

The experimental data presented illustrate the kind of work which can be done to advance our knowledge of geriatric nutrition. It is only a beginning and does not pretend to have produced any solutions to the problem.

PRACTICAL MEASURES

The lower activity and the lower basal metabolic rate of the healthy old man is evidence that he needs fewer calories. Assuming that his protein needs are of the same order as that of the younger individual, and being aware of his lower caloric requirement, it becomes apparent that the diet should be more concentrated in its protein content. Thus, any sacrifice in the caloric intake should be made at the expense of the carbohydrates and fats rather than the proteins.

What practical measures may be taken to provide proper nutrition for the aged? At the Elgin State Hospital, we have learned that bread was preferred to other foods by many of our aged. Instead of trying to change this habit pattern which seems to be so common with many old people, we have tried to increase the animal protein content of our bread.

Table 4 illustrates the basic composition of the bread we bake daily at the Elgin State Hospital. This bread is supplemented with dried eggs as well as milk powder and provides 44 gm. protein per pound of bread.

TABLE 4

*Elgin State Hospital bread formula**

Flour	400 lb.
Vitamin "B" wafers	4
Yeast	7 lb.
Salt	8 lb.
Yeast food	2 lb.
Sugar	16 lb.
Lard	9 lb.
Milk, dried skim	32 lb.
Eggs, dried	12 lb.
Water	240 lb.
Malt, non-diastatic	4 lb.

* We are indebted to Grace H. Woleben for the dietary work associated with this formulation.

In an institution such as ours, it is not always possible to supply some of the necessary dentures; consequently our dietary department arranges to serve more chopped food to the wards with older patients. Foods such as rhubarb, cabbage, corn, and cucumbers are limited, but a strong effort is made to increase the milk consumption. Consideration is being given to further increases in the use of low-fat dairy products in an effort to increase the protein: fat ratio in the diet.

In summation, when one considers all the psychologic, sociologic, and physical factors which affect older individuals, it is not surprising that some clinicians practicing geriatrics have been impressed by what appears to be a greater need for some of the essential nutrients by the old. Especially is this so, when the prescription of additional proteins and certain vitamins ameliorate pathologic symptoms. Proof that a diet which is normal for the young adult is more than adequate for his less active counterpart of greater years may not seem to have much practical significance in situations where much *less* than the minimal adult requirements is being ingested.

The problem at present is not one of requirements. Rather, it is a problem of logistics: how to package and move some of our food supply to those individuals who are not consuming enough of the right kind of metabolic ammunition.

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Insects or Insecticides?

Which is the greater hazard—insects or insecticides? Alarmists are telling the American people that insecticides are the greater danger. They claim that we're being poisoned by the new chemicals. Such fears for the most part result from a misinterpretation of laboratory toxicity data in terms of insecticide hazards to man. Data obtained in experiments on animals do not give us a true measure of the insecticide's hazard to man and should not be used as reason for sounding the alarm. *How* the insecticide is used to control insects largely determines the toxicity hazard.

I wonder if it is realized how many persons throughout the world would die or suffer serious illness if insecticides and repellents were not used to protect them from insect attack. Because of the many diseases they transmit, insects are responsible for the death of millions of people each year and the illness of several hundred million more. When we consider our insecticides as man-savers rather than as man-killers, it calls for an entirely different outlook on the matter of calculated risks in employing insect control chemicals.

DDT has come under heavy fire from those who believe that, for some purposes at least, it constitutes too great a health risk to permit its use in the manner now advocated for controlling insects which affect man. How many illnesses—how many deaths—would you say that the use of DDT has prevented? On the basis of discussions with several authorities on insect-borne disease, I estimate that no less than 5 million lives have been saved, no less than 100 million illnesses have been prevented by DDT's use against malaria, typhus, dysentery, and other diseases since it became available about 1942. To my knowledge, not one death (excluding accidental deaths) or serious illness has been caused among people exposed to it in connection with the control of insects.

Chlordane, too, has become a target for those who stress the dangers of the chemical with little or no regard for the hazards of the insects and the diseases they transmit. Chlordane is used in homes and other buildings to control certain household insects, particularly roaches, which are capable of transmitting food poison organisms. It has been widely used in Italy and some other countries to control flies, mosquitoes, and other disease vectors. No toxic effects on man, resulting from these uses, have been reported. We have no estimates of the number of illnesses and deaths that have been prevented through the use of chlordane. Although not comparable with the record of DDT, the number would, no doubt, amount to hundreds of thousands.

The fine safety record of DDT and chlordane—despite their toxicity to animals under certain conditions of exposure—gives us every reason to believe that medical authorities, toxicologists, and entomologists who have advocated their use have not underestimated their hazards when they are employed in the manner required for insect control.

The importance of the insects and the diseases they transmit must certainly be a continuing consideration, however, in reaching a decision whether a given insecticide is too hazardous to use. The risk must be considered in relation to its potential usefulness.—*Dr. Edward F. Knipling, In Charge, Division of Insects Affecting Man and Animals, Agricultural Research Administration, U.S. Department of Agriculture, speaking before the American Association of Economic Entomologists in Philadelphia on December 15, 1952.*

Feeding the Hospitalized Child

A Developmental Approach[1]

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THERE is an established body of scientific research in the field of child nutrition which has told us what foods are important to the growing child and why. This knowledge has been applied widely and effectively in many ways to child feeding; it has been ably and thoroughly included in the education of the public and of professional workers. Yet the problem of poor nutrition has not been solved; feeding problems still abound. Anxious parents, nurses, physicians, child care workers, and nutritionists all testify to the prevalence of children with an assortment of feeding problems with far-flung implications, of grown-up children, "adults," with just as wide an assortment of distorted responses to eating, the most basic natural process.

There is also a somewhat less well established but ever-growing accumulation of scientific research in the field of child growth and development which tells us how our knowledge of child nutrition can be more successfully incorporated into the building of a child's sound body and a healthy personality. The key to many of our difficulties lies, we are learning, in the lag in application of available knowledge about personality development to our child-caring practices, of which feeding is one of the most important.

DEVELOPING A SENSE OF TRUST

We are beginning to recognize that feeding experiences have a powerful influence on a child's growing personality because from the beginning of life they occur as intimate relationships with other human beings who care for him, give to him, withhold from him, and come to expect certain kinds of behavior from him. The child's personality, directed from within by his own developmental forces, takes on its structure and form in the environment of these personal relationships. From the earliest beginnings of life, each offering of food to the infant brings from the person who feeds him some kind of answer to his hunger for love, which is a need as real in him as the hunger for food which first set him crying. His psychologic and physiologic selves are inseparable, and what affects one affects the other. The relief of his physiologic hunger must come from the hands of a stable mother-person who conveys to him by the promptness of her response, her caressing touch, her warmth of body, her voice and reassuring body movements, and other mothering ways the kind of a world into which he has come and how his mother feels about him.

Because of the inseparable nature of his physical and psychologic selves, the baby comes to love *first* the person who satisfies his hungers. He has his *first* most important relationship with the person who feeds him, and this relationship serves as the building stone for all his future relationships. Food and love become so intimately intertwined in the early months and years of the child's growing that they remain knit together throughout life. The withholding of a full measure of stable, warm, mothering attention during the infant's feeding for any reason may result in starvation of the personality as surely as the withholding of vitamin D results in the presence of deformed rachitic bones.

This close relationship between the child's physical and emotional responses has been shown in the studies of institutionalized infants who are seriously deprived of affectional care. Such children fail to thrive physically, waste away, become ill, and even die in a marasmic state. Margaret Ribble in her book, *The Rights of Infants* (1), has written eloquently of the infant's early psychologic need for mothering and of the manner in which mothering also serves his biologic needs.

These mothering activities which accompany feeding and other daily care contribute largely in the first year of life to building into the personality that component described by Erik Erikson (2) as a basic sense of trust, a feeling that the world is a good place in which to live. Without this firm foundation, the personality structure can be damaged permanently and seriously for life.

[1] Presented at the 35th Annual Meeting of The American Dietetic Association in Minneapolis, on October 22, 1952.

DEVELOPING MATURITY

Increased understanding of the developmental process has also brought about more thoughtfulness regarding the manner in which we lead children toward developing maturity. There is growing recognition of the need to respect the natural unfolding of the child's abilities and to tolerate his immaturities with patience and understanding. There is a natural rhythm and sequence to a child's growing; he follows the general patterns of growth but he has his own particular time clock. It is our role in child care to anticipate the unfolding of his plan for growth and to recognize the cues he gives us which indicate his readiness to move on with our help to more complex experiences. Knowing in general what we may expect, having a deep faith in the child's ability and eagerness to grow up, we are able to adapt our practices to his revealed needs and abilities. Developmental care, then, is fundamentally a matter of timing our own behavior to keep in step with the child's individual pattern of growth.

PHYSICAL DEVELOPMENT

The infant begins early to reach out actively to participate in his feeding and, to achieve independence, continues to do so with increasing vigor and willfullness. We have spoken of the child's essential need for satisfying relationships in the building of a basic sense of trust in *people*. Basic to this feeling of trust also is his need to gain bodily control through practice, so that he may rely on his own body to do his bidding and to do so with the approval of the mother-person.

In the first year the child must make a number of adjustments in this area in relation to feeding. He makes the transition from a wholly liquid diet to one which includes a wide variety of solids of different tastes, consistencies, and textures; he is partially weaned from the breast or bottle; he makes a transition from a very primitive way of eating to one which already includes a spoon, a cup, and bowl of some type, and he begins the rudiments of self-feeding.

To help the infant accomplish these adjustments, we need only to continue with considerate mothering attention and to take each new step so gradually and so in keeping with his abilities that no sudden untimely disruptions occur. The infant's rhythm for eating gradually shifts of its own accord, first omitting the night bottle, then often the early morning bottle, slipping into a three-meal-a-day schedule at about one year.

Learning to take food from a spoon and a cup is a matter of perfecting the neuromuscular maturation of lips, tongue, and the muscles of the cheeks and of swallowing. It is slow but sure, and if the baby is given repeated gentle opportunities to practice without too many emotional upsets, he learns. He spills a great deal, he begins to reach out crudely with his hands, to mess with his food, and even to help by holding his cup briefly. If we recognize this basic principle of making gradual transitions which allow and gently encourage the infant to discover the power of his body, and if we practice within the framework of his immaturities, he will reach his first birthday with a solid sense of trust in the world and with the developmental readiness to move into the next period.

BUILDING AUTONOMY

Beginning in the second year and continuing for the next two years, much of the child's energies are directed toward asserting his individual mind and will, building a sense of his own independence and worth. It is during this period that the child runs head-on into the impact of his culture, the setting of limits, the expectations and demands of other people. He must develop self-control without loss of the feeling of his own worth. It is a trying time for parents in which behavior problems in eating, sleeping, and elimination are common. It is a critical period for the child, for the ultimate goal is the achievement of the quality Erikson (2) refers to as a sense of "autonomy." Biologically, this is a period of neuromuscular maturation for a number of highly complicated motor skills, such as walking, talking, and manipulating the body in ways requiring skillful eye-hand coordination.

In the feeding situation the child is exerting his rapidly developing powers and at the same time demonstrating his immaturities. The stage must be set, suitable equipment chosen, a kind of guidance offered which allows for successful practice and which is compatible with what he can be expected to do. Avoiding the "pitched battle" over food, not expecting too much, allowing time, and preventing upheavals by thoughtful planning are key suggestions in management.

THE TWO-TO-FIVE PERIOD

The two- to two-and-one-half-year-old child has become a pretty well organized person. Adults are apt to overestimate him in many ways by expecting too much and at times to underestimate him by trying to do things for him and thus generating rebellion. The maturing muscles of his hand and wrist permit him to carry on an entire meal by himself, when he is not tired and when he chooses to do so. He continues to spill and mess somewhat and may begin to throw undesired food on the floor. Resistance to coercive management rises high, and he may become very angry if a particular routine is changed. There is a high correlation between the management of the child's total day and his mealtime behavior. A smoothly planned, flexible daily program gives some solidarity to his rapidly organizing nervous system.

By this time he is sufficiently organized in his re-

sponses to enjoy and profit from a regular procedure in relation to the feeding situation such as using the toilet, washing, or resting before meals. He understands and needs reminders, such as "it is time to get ready" for lunch. Sudden, abrupt demands usually precipitate balkiness, temper tantrums, and loss of appetite. He enjoys helping to set the table, pass food and drink, put on and take off his bib. Left alone to practice his feeding, he still needs an unobtrusive kind of supervision. Coercion, forcing food, withholding desserts, and the assorted other similar techniques used by some adults to "get them to eat" have no justification, and at their best are indications of a lack of understanding of child behavior. At their worst, they may aid and abet the development of faulty attitudes about food and of other even more serious problems.

The period between three and five is important to the child's total personality development because it is at this time he is developing his sense of initiative, an increased ability to select his own social goals, and move out to reach them. Insofar as we are able, we need to help the child to feel he can reach the goals he sets for himself and yet to feel no shame or doubt because he sometimes fails to do so.

By five years, the child is very independent in his ability to prepare himself for mealtimes, to carry on his own feeding. He is interested in food preparation and food service. He can now help buy, prepare, and serve some foods. He can set the table, clear it, and help wash dishes. He can use a fork of suitable size and is interested in using a knife but is not very skillful at it. He enjoys the social setting of mealtime and may eat better with other children than alone. He enjoys little parties, surprises, and fun at table. He can be charmingly gracious, polished, polite. He has begun to learn something about the foods he eats and may even have his own garden. He has begun to notice differences between the feeding practices of his own family and those of neighbor children. He asks a lot of "whys" about food and food practices, as he does about other things. He has a right to answers.

THE SCHOOL AGE

The six-to-twelve period is marked by the child's entrance into school and the influx of outside influences on his concept of himself and of family. He likes to eat with friends, and is sharply observant of cultural differences in feeding situations. The apparent breakdown of table manners of the child in this period is universally lamented by adults and represents a source of worry and dissension in many homes. Understood in the light of its developmental significance, it becomes at least tolerable to adults, if not acceptable, for it is a part of the natural drive of the child to test out his past experience at home against the influx of new ideas which are bombarding him in the community into which he moves.

The rapid growth of the child's mental abilities enables him during this period to handle complex scientific material, and he can now learn with help to plan and cook meals which meet his own growth requirements. The child wishes to grow up, to be strong and healthy. An appeal to his combined growing intellectual ability and desire for growth and health can be made as a basis for health teaching at this period. He can learn to take over much of his own nutrition planning. The school has a role to play, of course, in the achievement of this goal.

Appeal may also be made to the child's developing social sense, through offering experiences in planning menus and food service for special occasions, and in dining out in restaurants with family or friends. Providing the child repetitiously with good food, a more adult type of food service, an esthetically satisfying atmosphere of friendly graciousness during mealtime, and plenty of good examples will go far in guiding him toward more mature behavior. The ingredient which is being built into the child's personality during these years is the one referred to by Erikson (2) as a sense of accomplishment or industry. Intelligent and understanding care provides the child with good examples and stimulating real tasks he can carry through to completion with a feeling of doing them well.

AIMS OF ADULT GUIDANCE

To summarize, the role of the adult in guiding any child's feeding experience, then, is to achieve three major aims:

(a) To provide food which meets his growth needs, prepared and served in a way which is compatible with his developmental abilities.

(b) To provide an atmosphere of learning in which it is easy and natural for him to establish healthy relationships and acquire serviceable feeding habits.

(c) To employ feeding practices which aid him in making a smooth transition from a simple to an increasingly complex way of eating.

PROBLEMS OF HOSPITALIZATION

These considerations provide the foundation upon which we build our feeding program for the hospitalized child, but there is another important aim which must be added: to modify and adapt our practices to the child's individual past experience, his illness, and the fact of separation from home and family. The accomplishment of these aims requires a high degree of knowledge, skillful application, and superb professional teamwork.

When the hospitalized child is removed from his familiar setting of the home and is placed in the care of adults who do not know him, he is subjected to many new environmental factors to which he must make a satisfactory adjustment. It is imperative, therefore, that we bridge the gap for him between

the known and the unknown in order to link together his past and his present experiences. Obviously, the parent is the person who can best assist hospital personnel in providing this continuity of care.

THE PARENTS' ROLE

Happily, there is a trend in hospitals today toward allowing much greater freedom to parents in visiting with their children. In the institution with which I have been associated, we have demonstrated repeatedly the value to the child and to the parents of encouraging parent observation and participation in the feeding experience, especially during the transition period after admission. Infants and young children are particularly vulnerable to disruptions of their personal relationships and changes in the methods of care to which they have become accustomed. Although many problems present themselves, when sincere cooperative effort is made to permit parents more freedom in participation, the child is often helped to maintain a greater intake of vital fluids and food and is protected from a serious break in the solidarity of his family life. The parent is helped to feel needed and can make a real contribution to the child's adjustment and recovery. Also, when more permissive visiting policies are allowed, parents can more easily share in and learn about the plan for the care of an older child who is having more structured learning experiences about food or receiving some particular kind of instruction, such as that for a child with diabetes.

To strengthen further the continuity of care in the hospital, some kind of written record should be made of the child's previous feeding experiences, his habitual responses, his likes and dislikes. This kind of information available on the chart is most helpful to nurses and other workers in making the new feeding experience more familiar to the child, and it reassures parents that hospital personnel are concerned with the child as an individual. It would seem that either a nurse or a dietitian should interview the mother since they will be most intimately concerned with the use of material.

NEED FOR COOPERATION

A total feeding program which embraces the developmental approach can only be achieved by conscious cooperative group effort and leadership on the part of hospital administration; the medical, nursing, and dietetic professions; and parents. Cooperative planning must be built solidly upon mutual agreement as to the contributions such a program makes to the improved care of the child; it cannot function unless each group maintains realistic awareness and appreciation of the problems faced by the other groups in carrying on the program. If we are to *be* together in performance, we must *get* together in planning at all levels.

It is folly to talk of more permissive visiting privileges if the hospital administrator, the nutritionists, the physicians, and the nursing group do not come together to discuss policies and practices, to explore just what is involved for each group. If we want group feeding for children, we must have a place to carry it on with minimum equipment and personnel to do it. We cannot legislate permissiveness, either. It has to grow with education and understanding, and it requires a kind of atmosphere which permits adults to be reasonably relaxed and pleasant with each other. A student nurse can scarcely be expected to wait quietly for a small child to practice his self-feeding if she is tense and anxious over what may happen if her other assignments are not completed to the satisfaction of her head nurse or supervisor. The nursing supervisor who is weighted down with administrative detail finds it difficult and discouraging to aim for a high degree of individualization in the feeding practices on her ward. The physician who orders the child's diet and in large degree determines the amount of activity allowed must understand how his orders influence and are influenced by the plan for the child's total day.

These problems and innumerable others must be faced across the board; reasonable solutions and compromises must be reached if progress is to be made. With understanding and realistic cooperation, it is usually possible to do a better job; however, we must remember it takes time and persistent unflagging effort.

PROFESSIONAL EDUCATIONAL PROGRAM

Obviously, to reach our goal in an organization of the complexity of a modern hospital, served by professional workers and other groups with heterogeneous personal and professional backgrounds, a continuous well organized educational program is necessary.

At present, it can be assumed that appreciation of child growth and development is not possessed by the nursing student or dietetic intern when she comes to her pediatric affiliation. This is true even for some young graduate staff nurses. Certainly the auxiliary worker who is employed cannot be expected to have the knowledge and understanding of child behavior which is needed in the performance of understanding nursing care. For all levels of workers, discussions on growth and developmental care are an essential part of in-service education; for the nursing student and dietetic intern, planned instruction is needed throughout their pediatric affiliations, accompanied by supervised observation and application at the bedside.

No single individual or group is best qualified to offer instruction. The person or persons who are best qualified by education and experience should be selected for instruction of professional personnel. For the instruction of professional nursing students, practical nursing students, nurses' aides, or other

auxiliary workers, well qualified head nurses, clinical instructors, and supervisors should be able to carry much of the teaching. In addition, physicians, child-care workers, psychiatrists, and psychologists all represent specialties which may be utilized to bring increased understanding of child behavior to professional workers, including the nursing student and the dietetic intern.

Economical use of personnel may be accomplished through interdisciplinary planning with medicine, nutrition, social service, nursing, and other groups participating. An extensive body of reference material is available for use in pediatric departments.

VALUE OF CONFERENCES

If the individual child's total care is to be dynamic, the adults who participate in it must come together at regular intervals to pool observations and to modify their plan for care according to his changing needs. In no phase of his care is this more necessary than in his feeding. While in the home setting, the number of adults who plan and share the feeding experience with the child remains relatively small; in an institution providing care for many children, many more adults usually participate, and there are inevitably more changes of personnel. If any stability and continuity are to be achieved in the more complex hospital situation, if the responses of the individual child are to be considered in adapting his care to his needs, if the feeding experience is to be a satisfying and successful one, it is essential that the adults participating come together to discuss individual children at regular intervals. The planned conference becomes one of the most important tools for improving the care of the child and for educating personnel.

The type of conference suggested here implies the setting aside of a regular period about once a week, at which time children with feeding problems of minor or more serious nature are discussed individually. It is assumed that in each area where children are cared for, some person or persons possess knowledge and understanding of growth and development and will be able to lead such an informal discussion. The use of consultants, such as the psychologist, psychiatrist, psychiatric social worker, and child-care worker, is highly recommended when they are available. It is desirable, of course, that the child's care be considered as a total plan, of which feeding is one very important part.

As nurses and nutritionists, it is our recognized task to bring our knowledge, experience, and skills together at the operational level where hospitalized children are being cared for under our guidance. We must learn particularly to apply the developmental approach to our child feeding practices and to our interpersonal relationships. We must use it in teaching children, parents, professional workers, and attendant personnel.

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Feeding Practices for Children in Ohio Hospitals

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IN 1950, the Midcentury White House Conference on Children and Youth met in Washington to seek answers to these questions: How can we develop in children the mental, emotional, and spiritual qualities essential for individual happiness and responsible citizenship? What physical, emotional, and social conditions are necessary for this development? Five thousand delegates from the United States and visitors and observers from thirty-seven foreign countries attended this conference, helping to lay out a massive blueprint for the next ten years to guide us in our work with children and youth.

In reporting on the Conference (1), Dr. Ercel Eppright, official representative of The American Dietetic Association, has clearly stated the implications for dietitians:

"The nutritionist or dietitian must seek her place in the team of workers concerned with the health and well-being of the child. Nutrition was recognized as one of the many disciplines which has something to contribute to the total personality of the child."

On "personalizing" hospital service, Dr. Eppright has this to say: "Physicians and hospital administrators expressed much interest in the problem of reducing emotional tensions accompanying hospitalization. Various devices for making hospitalization a less traumatic experience for the child were discussed."

Dr. Eppright cites important considerations for those concerned with training dietitians and nutrition workers capable of contributing to the total welfare of children and youth. Several of these have specific significance:

(a) At all levels of undergraduate education, students should receive broad preparation in the *knowledge of human growth and behavior*.

(b) Professional training should focus attention on the *human side of the subject of dietetics* as well as the scientific.

(c) A direct relationship exists between the area of foods and nutrition and the development of the healthy personality of the child. The nutrition of the child determines his mental and emotional make-up as certainly as his physical well-being.

One of the distinguishing characteristics of the Midcentury Conference was the formulation of a plan to continue the work through state and local committees. In Ohio, a Subcommittee on Hospital Services of the Ohio Commission on Children and Youth was formed in compliance with this plan. On June 25, 1951, this Subcommittee, as part of its follow-up activities, passed recommendations upon which a project blueprint was made. The objective of this blueprint was stated to be: implementation of hospital and out-patient care for children which gives consideration to their emotional needs as well as their physical needs. Two actions were recommended as being essential to the achievement of this objective: (a) applying the principles of development to medical and nursing care of the individual child and (b) providing and serving food which will support growth and development psychologically as well as physiologically.

To implement thinking and planning for the improvement of feeding practices, the Subcommittee conducted a survey to gather data on child feeding practices in Ohio hospitals. The questionnaire covered three broad areas: (a) methods of food service and equipment, (b) menu planning and food preparation, and (c) educational program and interdisciplinary participation. Eighty-one questionnaires were sent out; fifty-one were returned with answers. The results and implications of this survey will be discussed below.

TYPE OF FOOD SERVICE FOR CHILDREN

Thirty-two of the hospitals replying are using centralized service, while seventeen use decentralized service. In studying this situation, the Subcommittee commented that centralized food service has, it is

[1] Presented at the 35th Annual Meeting of The American Dietetic Association in Minneapolis, on October 22, 1952.

true, been acknowledged as a more efficient method of serving adults, because more rapid, efficient, and economical serving of food can be achieved. It is less subject to the variable pressures of other ward activities which are present when food is served from the ward kitchen by personnel with many other duties. The centralized method also makes possible a high degree of standardization of food service when such standardization is desirable and appropriate.

However, the degree to which the individual needs of each child can be adequately met is an all-important consideration when the type of food service for hospitalized children is determined. The child who is ill in any way, who is separated from home and family, usually shows wide fluctuations and capriciousness of appetite. This is often true not only from day to day but from meal to meal, or even from the beginning of a single meal to its conclusion. With decentralized service, the nurse and the dietitian usually function more closely to the actual serving of the food to the individual child. Decentralized service, therefore, tends to insure to a greater degree the establishment of an intimate relationship between the child and persons who serve and feed him.

It also tends to make possible greater opportunity for individualization since the food is served in the unit where the child is by persons who know his total needs. Standardized sizes of servings used in centralized food service are less desirable for children because of the wide variations which sick children present, and because second servings for "good eaters" are not so readily available as they are in the decentralized service.

In educational institutions decentralized service also offers an important learning situation for students through their closer participation in the serving of food to the child.

The increased time necessary for a decentralized service or a modified centralized service is often cited as a disadvantage. Time is admittedly important in all services to patients. However, consideration of the child's developmental needs is an urgent necessity today if nutrition services are to keep pace with knowledge and understanding of children. The benefits in the decentralized service which accrue for the child, as well as the increased learning experiences afforded the student, exceed the value of the time which may be saved by centralized service.

Therefore, the Subcommittee recommended that hospitals considering the selection of a food service for children give serious consideration to the decentralized method and that those hospitals with a centralized service give some thought to modification for the pediatric service.

KNOWLEDGE OF CHILDREN'S FEEDING HISTORIES

Of the institutions replying to the question, twenty-seven make a written record of the children's previous feeding experiences, while twenty do not. This tabulation indicated a need for more attention to the planning and use of a written record of hospitalized children's previous eating behavior. The Subcommittee, therefore, recommended that when possible, parents be interviewed at an early and opportune time about the child's previous feeding habits and experiences, and that a record of this information be placed on the chart where it is easily accessible to aid personnel in making the feeding situation similar to that which the child knows.

MENU PLANNING

The dietitian alone plans the children's menus in thirty of the fifty-one hospitals; in seventeen, the dietitian and nurse make this a cooperative duty; in three hospitals, the nurse alone plans menus; and in one hospital, a consulting dietitian takes this responsibility.

By training and experience, the dietitian is the specialist who should be able to provide the essential knowledge needed to meet the nutritional needs of children in health and sickness. The nurse is the adult in closest relationship to the child, serving his food, observing his reactions to it, and helping the physician and the dietitian to evaluate the relative success or failure of the nutrition program. Therefore, the Subcommittee recommended that the dietitian and the nurses plan menus in close cooperation. Such teamwork does not require that every menu or group of menus be planned jointly by the dietitian and a nurse; it does, however, mean that the dietitian who plans menus and the nurses responsible for the serving of the food should have frequent contact so that they may discuss the total plan for food service.

A meeting once a week, or perhaps every two weeks for 15 min. to a half hour to exchange ideas would, in many instances, give opportunity for such evaluation. Such a conference may often be arranged as a part of regularly scheduled nursing meetings at which matters pertaining to nursing care are discussed. In most institutions the dietary department has some method of supervision or "house rounds" at which time the dietitian may consult with the nurse in charge of the pediatric unit about the children's responses and obtain suggestions from the nursing and medical staffs.

It is also desirable for the dietitian to visit the pediatric unit during the mealtime so that she may observe first-hand the children's responses and the manner in which mealtimes are conducted. The dietetic intern can utilize such an experience to increase her knowledge and understanding of children's feeding behavior and in turn to use her experience to improve current feeding practices. Essential to such cooperative planning are sound interprofessional relationships among all personnel, based on mutual respect and desire to work together for better care of the child.

CONSIDERATION OF CHILDREN'S PREFERENCES

In response to the question: "Is any attempt made to prepare and serve foods to meet developmental abilities of different age children as to texture, flavor, color, size of serving?" the following figures were obtained: size of serving, 46 hospitals; texture, 41 hospitals; flavor, 31 hospitals; color, 26 hospitals. This tabulation indicates that a large number of hospitals do consider the size of serving and texture, but give less thought to flavor and color. We know that children more fully enjoy their meals when there is a nice variety of flavor, texture, and color. Lack of consideration of any one of these factors may establish food inhibitions which take a long time to eliminate.

The texture of foods must be of such a nature that the child will be able to chew them, or of a puréed consistency which does not require thorough mastication if he is too young or too ill to chew. Many children who are able to handle diced or chopped foods when well, become unable to do so when ill, or when fatigued. If foods are to be compatible with the developmental abilities of a young child just learning to take different foods, very careful preparation is necessary. Children in their third year like some foods which can be finger-fed, such as bits of vegetables and fruits and bite-size pieces of meat. Good menu planning calls for a variety of these foods, combined with some soft foods. Gradual substitution of coarser textures as the child grows older or as his health and vigor return is indicated. Respect for all of these varying abilities in relation to development and to the child's state of health is essential to insure good food intake and learning.

Flavor in a meal should be harmonious; seasoning can often be modified for older children especially, to make foods taste more nearly like those to which they are accustomed. Color lends appeal to food for the child and may be used in variety to court his appetite and interest.

The size of the serving of food was universally recognized by the reporting institutions as important in serving children. Usually the most successful method is to offer young children small servings of individual foods and to allow second or third servings if they wish. This consideration must be highly individual for each child and is one of the prime reasons why a feeding situation should be individualized.

FEEDING EQUIPMENT

The Subcommittee found a wide variation in the type of feeding equipment used in Ohio hospitals. Forty made standing trays available for children who can use them in bed; only nine did not. Thirty indicated that they recognize the difference in younger and older children's needs when selecting equipment.

The methods used by adults in guiding children during the mealtime are perhaps even more significant in achieving successful feeding situations than the actual equipment. Nevertheless, the Subcommittee stated some of the important considerations which must be kept in mind when feeding equipment is provided.

During the early years, the child's motor and mental immaturity require that the dishes be durable, easily manipulated, light enough in weight to handle, heavy enough to avoid spilling, and safe enough to allow plenty of experimentation. Small spoons, durable glasses or mugs with handles big enough to grasp easily, and bowls which are fairly deep with slightly slanting sides and no overhanging ledges where food tends to get lost are good. Since the young child may be expected to spill food when he eats at least until his third year, bibs are necessary. It is always best to have the young child eat in a place where spilling does not matter. After three to four years, he may begin to use a napkin. The use of napkins and tablecloths both for younger and older children adds pleasure and opportunity to learn something of simple table etiquette. For the older child, equipment can rapidly become similar to that used in the adult service.

It is important to provide suitable equipment and guided social situations which fulfill the child's developmental abilities so that he may have increasingly satisfying and stimulating learning experiences in relation to food and feeding. These experiences must be provided for the hospitalized child as for any child, through imaginative planning and cooperative application.

Since a comfortable position is desirable for good response and prevention of fatigue, it was recommended that standing trays be made available for all children confined to bed, and that all institutions serving children give continuous consideration to the developmental abilities and needs of children in selecting feeding equipment, as well as in determining methods of guidance.

FOOD SERVICE

Another question was: "Who is responsible for actual serving of foods on the wards and in the units?" It was learned that a wide range of persons actually serve children in Ohio hospitals, and there appears to be little uniformity in a placement of responsibility for this activity. Forty-two institutions use some type of professional personnel for serving food (39 use graduate nurses and 3, dietetic interns), but in most instances, other personnel apparently share the responsibility. The Subcommittee recommended that recognition be given to the need for professionally prepared persons to supervise food service as a major activity in children's care. The large number of institutions, 41 in all, which indicated the placement of this responsibility on nurses'

aides, practical nurses, and maids further points up the importance of retaining adequate graduate nurse and dietetic supervision and teaching of auxiliary workers who are responsible for the actual feeding of children.

Sixteen of the institutions indicated that nursing students share the responsibility of serving food to children. Since no record was obtained of the number of institutions which offer nursing education programs, it was difficult to evaluate these replies. The Subcommittee recommended, however, that the serving of food to children, the observation and recording of eating behavior under the supervision of the graduate nurse or the dietitian be considered as offering excellent learning experiences for nursing students in their clinical practice.

TYPE OF SERVICE

Twenty-five of the Ohio hospitals give the children no choice as to what they eat; 20 allow partial selection; and 4 offer self-selection. In reply to a question about group feeding procedures, it was learned that in the majority of the hospitals—43—the children are fed in their beds. In 25, however, individual tables and chairs are also provided, and in 5, family-style service is featured. In one hospital, the children may eat in the main dining room.

Economy of time and of food, except in an experimental situation, prohibit use of complete self-selection of food, nor could such a procedure be arbitrarily recommended as always desirable from the viewpoint of the child's best care. However, children who are ill and away from home usually respond more naturally when they are allowed simple choices without rigid demands upon them for conformity in eating all of the foods presented. Older children often enjoy an opportunity to help plan menus for special occasions such as parties or holidays. When the nurse and dietitian work cooperatively in planning menus and service, this can be done with little additional time and cost of food and with much benefit to the children's health and learning.

The tabulation of this item seems to indicate a need for more flexibility in allowing some choice of foods to children and for more provision of small group feeding situations for children not confined to bed.

We need to remember that eating for hospitalized children, as for all children, is a social experience as well as a fulfillment of physiologic need. Not only do they enjoy eating together, but they are also learning to be independent, to get along together, to eat in a socially acceptable way, and to share and help each other. It is not unusual to see improvement of a child's appetite and general behavior when he is able to eat with other children in a pleasant place with a happy atmosphere. When mealtimes are so planned and carried on, they are pleasantly anticipated by the children and appetite is called forth. Older children can benefit much from a family-style service which is similar to a home situation.

The Subcommittee recommended that whenever possible children be given opportunity to eat together in a pleasant friendly atmosphere in which enjoyment of the situation is possible and is encouraged.

PROFESSIONAL EDUCATIONAL OPPORTUNITIES

It is evident that increasing emphasis on the application of growth and development to child-caring practices makes it imperative that this knowledge be taught more effectively to all persons who care for children, especially professional workers. The Subcommittee, therefore, asked a series of questions about the educational practices employed in the participating institutions.

To the question: "Who teaches personnel in the clinical area in the acquisition of desirable attitudes and techniques for successful feeding?" the following answers were given:

Graduate nurses	29
Dietitians	7
Students and graduate nurses	5
Nun or sister	1
Psychiatrist	1
Physician	1

The relatively small number of dietitians who assume or are given responsibility for teaching others in this area is indicative of the need for them to prepare themselves better for this activity and to demonstrate more clearly their potential contributions to the improvement of feeding practices.

From another question in this area, it was learned that in only twenty-nine of the hospitals are lectures or discussions on growth and development provided for the personnel who feed children. In view of the urgent need for education of all personnel, this reveals a serious deficiency of instruction in approximately two-fifths of the reporting institutions. In those institutions where lectures and discussion are provided, various people participate, either as students or instructors.

In 11 hospitals, graduate nurses receive instruction from physicians, other graduate nurses, the superintendent, a recreational therapist, and a child psychologist. Student nurses in 17 hospitals are taught by the nurse instructor and dietitian. In 7, the practical nurses have graduate nurses, dietitians, the director of practical nurses, or the superintendent as teachers. Nurses' aides are trained in 13 hospitals by graduate nurses, dietitians, or the instructors of nurses' aides. In 4 of the hospitals, the chief dietitian teaches the members of her staff.

Several considerations are important for dietitians in relation to these figures. The dietitian apparently is assuming some responsibility for teaching information on growth and development to student nurses, nurses' aides, and practical nurses, although the

extent to which they are doing this could not be determined from the answers received. The implication, however, is that dietitians are now, and may be further, expected to know and teach growth and development. Despite this, only four institutions indicate that dietitians are conducting any continuing lectures and discussions on the subject, and that these are given exclusively by the chief dietitian. Obviously, the need is urgent to enlarge the educational opportunities for the dietitian and to include her in interdisciplinary instruction.

GROUP DISCUSSIONS

Similar answers were received to the question: "Is any opportunity provided for group discussion concerning individual children with feeding problems?" Only 27 hospitals answered, "Yes." The large number of institutions (23) giving a negative answer points up the need for stimulation of group discussion and for better preparation of personnel to conduct discussions. It was also learned that in five institutions, dietitians conduct conferences, although only one indicated sharing of group participation by the dietitian.

Our profession has demonstrated clearly its right to be called a profession capable of assuming large responsibility and of setting and achieving its own goals for social action and professional growth. We have followed the science of nutrition and have applied it to our programs of feeding people in health and in sickness.

We think we have done a good job of which we can be justly proud. The time is here when we must recognize that there is a developing science of human behavior, to which many disciplines are contributing and from which they are also deriving a new sense of direction and progress. If we as a profession are to maintain our status and move ahead to new goals, we must take our place with other disciplines in contributing to this new science of human behavior by the intelligent application of newer concepts of personality growth.

REFERENCE

(1) EPPRIGHT, E. S.: Report of the Midcentury White House Conference on Children and Youth. J. Am. Dietet. A. 27: 312, 1951.

Consequences of Food Laws

In discussing the consequences of food laws, it might be fitting to relate an incident indicating the consequences of *no* food laws. I once knew a metallurgist whose early life included many technological adventures, such as reworking ancient Mexican mine dumps on week days and running bull fights on Sunday. Finding this inadequately remunerative, he moved to San Francisco before the great fire and got a job with a firm making pure honey out of glucose. In proof of authenticity, it was the practice to drop one dead bee in every jar.

My own connection with control of food supply came at a later, less adventurous time when our first national Food and Drug Act had already been operating for some eight years. The zealous spirit of Harvey W. Wiley still was in evidence in the Bureau of Chemistry which then had the task of its enforcement.

During my training, I learned some of the problems. It was a very wet summer on the eastern seaboard, and numerous canners of tomatoes were suspected of watering their products. Among the many who came for informal hearings in response to warnings was an old lady who tearfully assured us that the water all came from the tomatoes, and I for one believed her. The role of policeman was not appealing under those circumstances.

By contrast, it was fun to assist in manipulating veterinarians' syringes in surreptitious injections of quinine solution into gunny sacks of cacao shells on New York wharves and subsequently using the quinine as a tracer to prove that the shells were being used as an adulterant of ground coffee.

Fortunately the era of widespread, willful violation of food laws has now long since passed. To a truly remarkable degree, the present cooperation between reputable food manufacturers and the food and drug officials of our federal government is cordial and mutually helpful. Many present-day scientists and technologists are inclined to accept this situation as a matter of course. It is not a matter of course, but the result of very intelligent cultivation by the Food and Drug Administration of the goodwill of industry and of the support of public opinion. The result could very easily have been quite otherwise. Just a breath of the scandalous corruption which has recently invaded our Internal Revenue Bureau could have rendered impossible the wholesome government–industry relationship which now exists. The record of personal integrity in the Food and Drug Administration is unsurpassed if not unequalled in our governmental history.—*R. R. Williams, Ph.D., speaking before the National Food and Nutrition Institute, Washington, D. C., on December 9, 1952.*

Weekly Variation in Nutrient Intake of Young Adults[1]

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DIETARY studies are usually undertaken for one of two purposes: to get an estimation of the nutrient intake of an individual or to portray the nutrient intake of a group. In both instances, the nutrient intake may be expressed either in absolute terms as the average or mean intake for some given period, or it may be expressed relative to some arbitrarily chosen standard. The National Research Council's Recommended Dietary Allowances is the standard most commonly used in this country (1).

There has been much concern with how long the period of diet recording needs to be to give a reasonably accurate estimation of the nutrient intake of an individual and/or of a group at any one season of the year. In attempts to answer the question of just how long a period is necessary, investigators have not always stated clearly whether they were interested in the individual or in the group approach. Shorter record-keeping periods have the advantage that greater numbers of subjects may be studied, and the subjects may be more willing to participate since less is required of them. Thus a wider representation of individuals may be obtained. Some investigators feel that the accuracy of record-keeping is better on a short-time than on a long-time basis. However, short periods also have certain disadvantages because they may not include all the variation to which dietary intake is normally subjected.

A number of investigators have reported studies on whether a dietary record of less than one week may be used (2–8). In most instances, it has been concluded that a week is to be preferred over shorter periods, but that observations over still longer periods are necessary to determine whether a week is a reliable unit of study. Koehne (9) attempted to answer this question by studying, over fourteen to twenty-five consecutive weeks, the intake of five children on weighed diets which were self-selected within the menus served. For each child, intakes were calculated by the week and then a final average made of all weekly averages. Ninety-six to 100 per cent of the weekly averages for calories, protein, fat, carbohydrate, calcium, and phosphorus were within 10 per cent of the final averages. For iron and acid and base values, 85 to 90 per cent were within 10 per cent. However, Koehne believed that when nothing is known about previous food habits or when studies are made during periods in which subjects are on types of diets different from those they routinely eat, dietary studies covering even a week or ten days rarely give results representative of the person's customary intake. She believed studies made over periods of less than a week to be wholly valueless. It was not stated whether this time was for studies of individuals or of groups, but it would seem to apply to studies of individuals only.

McHenry *et al.* (10), by means of food records kept for the first week of each of twelve consecutive months, studied the food intake of thirty-one persons with scientific training. Ten of these individuals were directly concerned with nutrition research. Values for the different nutrients were assessed in terms of the Recommended Dietary Allowances, and the number of persons having less than 70 per cent of the allowances were obtained. Those in excess of 70 per cent were considered to have "adequate" intakes. Using this procedure, the supplies of calories, protein, calcium, iron, and vitamin A were generally "adequate" and, except for calcium, remained fairly consistently so from period to period. However, the number of persons with "inadequacy" (less than 70 per cent of the allowances) of supplies of thiamine, riboflavin, and ascorbic acid showed marked vari-

[1] This paper is a contribution from the Northeastern Regional Nutritional Status Project NE-4, which was supported in part by regional research funds from the Research and Marketing Act of 1946 and in part by other federal and state funds, including a grant from the State University of New York to the School of Nutrition. Received for publication November 14, 1952.

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ability from week to week. They stated that quite different interpretations could have been obtained depending on which week was used.

As judged by the group tabulation, the amount of variation from period to period would be considered small for all nutrients except these three vitamins, but on an individual basis, there were large variations for all nutrients for every person. This study, of course, included seasonal effects, too, since it was conducted throughout the year.

Widdowson and McCance (11) commented on the question of whether a dietary record of one week is representative of a person's food intake over a longer period. They weighed the food of a "number of children" and made the statement that "the widely fluctuating caloric intakes from one day to another are well recognized phenomena, but when seven days of each week were averaged, the figures for the four weeks agreed very closely. It may safely be concluded that while a week is the shortest time for which a dietary survey should be made, the results of one week are probably fairly representative of the person's accustomed food intake." No details are given of the experimental work. Widdowson (12) reported that when four sixteen- and seventeen-year-old girls weighed their food at intervals of about one year, their caloric intakes the second time were not very different from the first, and either could have been taken as a measure of the girls' intakes. Boulton (13) was quoted by Widdowson as having studied eight children for four weeks and having found that the calories in the week of highest consumption were 9 to 34 per cent more than the week of lowest consumption. In three of the eight children, the difference was at least 28 per cent. These figures have been pointed out (14) as difficult to reconcile with Widdowson's (12) statements.

Yudkin (14) studied the diets of six postgraduate dietetic students and staff by means of calculated weighed dietary records kept for four consecutive weeks. He was interested in determining the minimal time which reasonably reflects the normal pattern of consumption. Weekly averages were compared with four-week averages, and intakes were evaluated in relation to a common standard. The weekly intake of calories and nutrients showed considerable variation; the values varied with the dietary components and with the subjects. While greatest variations were found for vitamins A and D and ascorbic acid, it was possible for a person to have an intake of *any* of the nutrients which was adequate in one week and inadequate in another. Yudkin concluded that a seven-day dietary study could not be considered long enough to give an accurate assessment of average intake of calories or nutrients for an individual.

There have been no studies in this country which have been concerned with periods longer than a week since the early one of Koehne. It is the purpose of this paper to report a study of the weekly variation in nutrient intake of a group of young adults at one season of the year. Previous studies from this laboratory in a much more rural community of the same geographic area failed to show seasonal effects on nutrient intake except in the case of vitamin A (15, 16).

METHODS

Subjects. The subjects were sixteen women and two men. Most were young adults, although the age range was twenty-three to fifty years. While the majority of subjects were stenographers and secretaries employed by the University, a few technical and professional employees and graduate students also participated (Table 1). In most cases the subjects ate at home as part of a family unit for at least breakfast and dinner and in general carried their lunch. A few subjects selected all meals in the college cafeteria and one prepared her own meals.

TABLE 1

Description of subjects

Age Range	NUMBER OF SUBJECTS
23–29 years	10
30–39 years	5
40–49 years	3
Occupation	
Stenographer and secretary	11
Technician	3
Professional person	2
Graduate student	2
Place Where Meals Were Eaten	
At home, with family	13
At home, alone	1
Cafeteria	4

Dietary Records. The dietary intake was recorded by the subject in terms of estimated portions and household measurements for twenty-eight consecutive days from mid-October until mid-November. Records were then calculated for calories, protein, calcium, phosphorus, iron, vitamin A, thiamine, riboflavin, niacin, and ascorbic acid by Babcock's simplification of the long method (17).

Treatment of Data. Because in most surveys it is difficult to obtain dietary information for more than a maximum of seven days, the question arises: how representative of the entire period is any one week of a four-week period? To answer this question on an individual basis, for each nutrient, four weekly averages and a twenty-eight-day average were computed for each subject and compared. The results were expressed in terms of the percentage variation from the average of the longer period. To answer the question on a group basis, the weekly mean nutrient intake of the group was examined in relation to the group's twenty-eight-day average. In addition, by means of analysis of variance (18), the variation in the nutrient intakes of the eighteen individuals over the twenty-eight-day period were examined.

For practical purposes in nutrition surveys, whether one is concerned with the estimation of an individual's nutrient intake or with that of a group, results are usually reported in terms of some yardstick or standard of comparison, such as the National Research Council's Recommended Dietary Allowances (1). The mean intake may be compared, or the distribution of the nutrient intakes of the group relative to the standard may be studied. It is of interest to know whether, both on an individual and on a group basis, a one-week dietary record will give essentially the same dietary evaluation, either on a mean intake basis or on the basis of distribution relative to arbitrarily selected divisions of the Recommended Allowances, as would any one of three other successive weeks. The divisions of the Recommended Dietary Allowances used for classification purposes in this case were: 100 per cent or over; 70 through 99 per cent; and under 70 per cent. For the mean comparison, the Recommended Dietary Allowances for the sedentary woman were arbitrarily used as a basis for all comparisons, as well as for the two men to facilitate the presentation.

RESULTS

Weekly Averages vs. 28-Day Average: Individual

Approximately 50 per cent or more of the individuals had weekly averages for all four weeks which were within a range of ±10 per cent of their twenty-eight-day averages for calories, protein, phosphorus, iron, thiamine, riboflavin, and niacin. Almost 100 per cent had weekly averages within ±20 per cent of their twenty-eight-day average for calories and iron, while 85 per cent came within this same range when phosphorus, thiamine, riboflavin, and niacin were the nutrients concerned. The weekly averages for vitamin A, calcium, and ascorbic acid showed greater variations from the twenty-eight-day averages, there being 75 per cent, 40 per cent, and 33 per cent of the subjects having differences greater than ±20 per cent for these nutrients respectively. Thus, for some individuals and particularly for the nutrients vitamin A, calcium, and ascorbic acid, a one-week period did not yield a sufficiently accurate estimation of nutrient intake to use in studying the dietary intake of an individual.

Weekly Averages vs. 28-Day Average: Group

The mean caloric and nutrient intake of the group for each week is given in Table 2. The data emphasize the sufficiency of the one-week record in estimating the nutrient intake of a group, a finding which is consistent with those reported in the literature. In fact, Chalmers *et al.* (8) have stated that for ascertaining the mean intake of a group, a one-day record was found to be more efficient when the relative importance of the number of days was compared to the number of subjects.

TABLE 2

Mean caloric and nutrient intakes of eighteen young adults, by week

WEEK	CALORIES	PROTEIN	CALCIUM	PHOSPHORUS	IRON	VITAMIN A	THIAMINE	RIBOFLAVIN	NIACIN	ASCORBIC ACID
		gm.	*mg.*	*mg.*	*mg.*	*I.U.*	*mg.*	*mg.*	*mg.*	*mg.*
1st	1975	72	965	1256	11.0	8343	1.09	1.90	11.9	103
2nd	1937	67	885	1188	10.8	9976	1.08	1.84	11.6	93
3rd	1859	68	903	1190	11.0	8607	1.06	1.81	11.6	101
4th	1826	70	878	1180	11.0	8564	1.03	1.87	11.6	88
28-day	1899	69	908	1204	11.0	8872	1.06	1.86	11.7	96

Sources of Variation in Nutrient Intake

The variation found in the twenty-eight-day records for the eighteen individuals was partitioned according to days, weeks, and subjects as sources of variation. Table 3 presents the analysis of variance for the ten nutrients. For nine nutrients, the differences between *weeks* were not significant, the exception being protein which was significant at the 5 per cent level. These results give further evidence that weekly averages for a group do not vary greatly and that one week is as representative as any of its adjacent weeks. Similarly, the lack of significant variation due to *days*, except for riboflavin, suggested that on the average for this group, the nutrient intake tended to be constant for all days of the week. It is also interesting to look at the interactions of *weeks by individuals*, where non-significance was found for eight of the ten nutrients. This is equivalent to saying that the pattern of an individual's nutrient intake was observed to remain nearly the same from week to week with the possible exception of calcium and ascorbic acid. (The large variation in vitamin A intake might have masked a difference in pattern here.) Likewise, the *day by individual* interaction was significant for only two of the ten nutrients, giving evidence that individuals tended to eat similarly from day to day. The third interaction, *week by days*, indicated that the days tended to have the same pattern week to week, since only in the cases of calories and iron were the interactions significant. Vitamin A and ascorbic acid intakes showed larger variations than the other nutrients. From the stability of the group's mean intake from day to day, together with the non-significant interaction involving the *day* effect, these data have suggested that less than a week's record might have been adequate for this group.

One Week vs. Four Weeks in Comparison with Recommended Allowances

Nutrient Intake of Group. From Table 2 it may be seen that by nutrient, there was no significant change from week to week in the group mean nutrient intake relative to the Recommended Allowances. For pro-

TABLE 3

Analysis of variance on ten nutrients for twenty-eight-day records for eighteen individuals

SOURCE OF VARIATION	DEGREES OF FREEDOM	MEAN SQUARES									
		Calories	Protein	Calcium	Phosphorus	Iron	Vitamin A	Thiamine	Riboflavin	Niacin	Ascorbic acid
		in 10's	*gm.*	*gm.*	*gm.*	*mg.*	*I.U. in 100's*	*mg.*	*mg.*	*mg.*	*mg.*
Weeks	3	5,767	780*	1,864	1,491	0.77	7,008	0.1233	0.2733	4.52	5,479
Days	6	6,172	339	1,392	1,249	25.10	15,667	0.1617	1.2517**	14.19	3,937
Individuals	17	55,090**	6,046**	40,430**	34,778**	258.97**	59,293**	1.8359**	11.7318**	147.78**	23,768**
Day × individual	102	2,117*	271	929	849	11.37	9,193	0.0881	0.5308	19.25*	1,599
Week × day	18	2,597*	200	981	579	17.07*	7,665	0.0633	0.2333	14.31	1,784
Week × individual	51	1,769	241	1,115*	876	6.80	5,925	0.0847	0.3682	15.49	2,416*
Week × day × individual	306	1,461	216	780	749	9.61	8,404	0.0840	0.4787	14.34	1,503

* Significant at the 5% level.
** Significant at the 1% level.

TABLE 4

Classification of weekly and twenty-eight-day averages of nutrient intake of eighteen individuals in relation to Recommended Dietary Allowances

NUTRIENT	CLASSIFICATION OF AVERAGE INTAKE AS PERCENTAGE OF RECOMMENDED DIETARY ALLOWANCES	NUMBER OF INDIVIDUALS				
		1st week	2nd week	3rd week	4th week	28 days
Calories	100% or over	9	8	7	6	7
	70–99%	7	7	8	9	10
	under 70%	2	3	3	3	1
Protein	100% or over	13	11	11	13	11
	70–99%	4	7	7	4	7
	under 70%	1	0	0	1	0
Calcium	100% or over	9	8	10	7	8
	70–99%	2	4	0	4	3
	under 70%	7	6	8	7	7
Iron	100% or over	7	5	6	5	5
	70–99%	6	9	7	8	9
	under 70%	5	4	5	5	4
Vitamin A	100% or over	15	15	14	15	15
	70–99%	0	2	2	1	1
	under 70%	3	1	2	2	2
Thiamine	100% or over	10	11	9	9	10
	70–99%	8	6	7	8	8
	under 70%	0	1	2	1	0
Riboflavin	100% or over	9	9	10	13	10
	70–99%	7	7	6	4	7
	under 70%	2	2	2	1	1
Niacin	100% or over	14	14	13	12	14
	70–99%	4	3	4	5	3
	under 70%	0	1	1	1	1
Ascorbic acid	100% or over	14	14	15	14	13
	70–99%	3	2	2	1	5
	under 70%	1	2	1	3	0

tein, vitamin A, thiamine, riboflavin, niacin, and ascorbic acid, the weekly values as well as the twenty-eight-day averages were all over 100 per cent of the allowances for the sedentary woman. Values for calories, calcium, and iron were always slightly below the allowances. The weekly and twenty-eight-day averages of caloric and nutrient intake classified in relation to the allowances for the group of eighteen subjects are given in Table 4. There was little difference in the number of subjects in each classification for each nutrient no matter which week was chosen or if the twenty-eight-day average was used. The greatest difference seemed to be in the case of calories where weekly high and low averages tended to compensate for each other so that fewer subjects had twenty-eight-day averages in the lowest category. This also appears to be true for thiamine and for ascorbic acid.

Nutrient Intake of the Individual. As would be expected, the weekly mean nutrient intake of the individual subjects varied more than did the weekly mean intake of the group in staying in the same Recommended Dietary Allowance classification each week. In general, the people who failed to meet the allowances one week also failed to meet them in other weeks. Thus, even in the classification of individuals in terms of meeting or not meeting the allowances, conclusions would not be greatly different whether seven- or twenty-eight-day records were used. On an individual basis, the weekly intake of the majority for calories and all nutrients except iron did not change in this classification relative to the allowances from that of the individual's twenty-eight-day average (Table 5). When the classification did change for an individual, it was usually a shift of only one division for only one weekly average. As might be expected, the nutrients for which there was the greatest shift in classification (the greatest number of individuals for the greatest amount) were ascorbic acid and vitamin A.

TABLE 5

Change in classification of individual weekly nutrient intake relative to Recommended Dietary Allowances over four-week period

CHANGE IN CLASSIFICATION	NUMBER OF INDIVIDUALS								
	Calories	Protein	Calcium	Iron	Vitamin A	Thiamine	Riboflavin	Niacin	Ascorbic Acid
Same class—4 weeks	10	12	11	8	12	12	11	10	12
1 division—1 week	7	3	5	7	2	4	6	4	2
1 division—2 weeks	1	2	2	2	1	2	1	3	0
2 divisions—one or more weeks	0	1	1	1	3	0	0	1	4

DISCUSSION

If in a dietary study one is interested only in the group picture of nutrient intake at any one season, a seven-day record would obviously have served the purpose as adequately as that for twenty-eight days. The pattern of the daily means for the group proved sufficiently stable to suggest that even less than a week's record would have provided an estimate of intake with little loss in precision. These findings are in accord with those reported in the literature dealing with several different population groups.

In other dietary studies designed to investigate the accuracy of the estimation of the nutrient intake of the individual, more than a seven-day record was found desirable. This result was echoed in these data, since a limited number of individuals showed considerable variation in their intakes from week to week. This was particularly true in the case of the nutrients vitamin A, ascorbic acid, calcium, and possibly iron.

On an individual basis, had we been interested only in an evaluation of the dietary intake in terms of the Recommended Dietary Allowances, according to a broad classification, a one-week record was found to be sufficiently consistent with the results of the longer period (twenty-eight days) so as not to warrant the longer record-keeping period. However, for more precise work or where values need to be expressed in absolute terms, a period longer than one week was felt to be necessary.

SUMMARY AND CONCLUSION

Eighteen adults, twenty-three to fifty years of age, eating mostly in their own homes, recorded their dietary intakes in terms of estimated or measured food portions for a period of twenty-eight days. The record for each individual was calculated in terms of the average weekly and the average twenty-eight-day nutritive value. On both an individual and group basis, a study was made of the variation in weekly nutrient intake and of the changes in evaluation relative to the National Research Council's Recommended Dietary Allowances which would have occurred if one-week records had been used instead of twenty-eight-day records. Variation in the twenty-eight-day records was also partitioned with respect to days, weeks, and subjects.

One week was found to be representative of the twenty-eight-day period when the average intakes for the group were examined. To a less pronounced degree, this result held for individuals for calories, protein, phosphorus, iron, vitamin A, thiamine, riboflavin, and niacin; it did not hold for calcium and ascorbic acid.

As an estimate of average nutrient intake for the group, a seven-day record was easily adequate. For an individual, except as an approximate indication of intake, it was felt that the observation period should exceed seven days for most subjects.

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Food Protection Committee

The accelerated development and use of new chemicals in food processing and in protecting crops and livestock from destructive pests and disease has confronted various industries and government agencies with problems focusing on the common objective of insuring adequate and wholesome food to a technologically dependent population. Huge sums are expended for investigation into the properties, uses, and effects of chemicals, and no single private or governmental agency or group of agencies can anticipate all the end results.

The food processing industries in advancing technology must not only test new agents appropriate for their products, but must also be concerned with possible residues accumulating in the products at any stage of production. The agricultural producers face the dual necessity of providing adequate food for an increasing population and of combating the enemies of plant crops and livestock which tend to decrease yield and impair quality. Government research and control officials are involved in all phases of the situation, from production requirements for food to its effect on public health.

The major problem is the objective evaluation of pertinent facts concerning the safe use of chemical additives in foods, for the guidance of industry and government. The task of dealing with the problem was assigned to the Food Protection Committee established by the Food and Nutrition Board in September 1950. The Committee is performing the following functions:

(a) It assembles and evaluates scientific information on both incidental and intentional chemical additives used or proposed for use in or on foods, and encourages dissemination of accurate publicity about food additives.
(b) It advises and assists industry and federal and state governmental agencies in the integration of research on the use of chemicals in food production, processing, and preservation. It promotes additional research which appears desirable.
(c) It seeks to develop guiding principles and standardized procedures essential to safeguard food.

The Committee has developed the following publications:

Basic Principles Involved in Evaluating Safety in the Use of Chemical Additives in Foods
Basic Considerations Involved in Evaluating Hazards Encountered in the Use of Pesticides on Foods
Statement on the Use of Surface Active Agents in Foods
Use of Chemical Additives in Foods
Basic Considerations in the Development of a New Agricultural Pesticide Intended for Use in Connection with Food Production
Analytical Methods for Pesticides
Safety of Mono- and Di-glycerides for Use as Food Additives

The following are contemplated activities of the Committee:

(a) Critical review of basic procedures for establishing safety of specific intentional additives in terms of the Committee's statement of basic principles.
(b) Review and clarification of specific problems developing in relation to the application of the basic principles.
(c) Compilation of the types and quantities of additives used to a significant extent in processed foods.
(d) Further encouragement of the accumulation of data on the prevalence of pesticide residues on marketed foods.
(e) Continued preparation of summaries of analytical methods for pesticides and interpretation of their applicability.
(f) Continued consideration of requests from industry and government for review and evaluation of information on intentional and incidental additives in terms of their safety for use in crop and livestock production and in food processing and distribution.
(g) Exploration of possible methods of testing packaging materials.

Professional Participation—in Perspective[1]

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LIFE for individuals, groups (including professional groups), and communities is a continuous series of problem-solving events. A problem is defined as a particular constellation of factors, circumstances, people, and attitudes in a given sequence of time, in such an arrangement as to bring a certain amount of discomfort or dissatisfaction and to call for a solution that will lessen or dispel this tension. A solution consists of a rearrangement of the factors, circumstances, persons, or attitudes by taking out one, or by putting in another, by reordering the sequence, or by reshuffling in some other way so that a new combination is achieved which gives promise of greater comfort or satisfaction. Of course, this solution is still made up of a particular combination of factors, circumstances, persons, and attitudes and, hence, may give rise to one or more succeeding problems. This is natural and unavoidable. Hence, we can say that life for individuals, groups, and communities (including professional groups and communities) is a continuous, never-ending process of problem-solving. To recognize this fact is to acquire greater perspective and perhaps a bit more equanimity.

EVOLUTION OF SOCIAL CHANGE

Social process or social change, which is a longer view of the problem-solving continuum, has at least three distinguishable phases. The first is characterized by stability, by adherence to well known and well accepted rules, by provisions for enforcing the established ways, and by an identification of the established mores and folkways of the community with religious, ideologic, and political sanctions. As changes occur, such as those ushered in by technologic and scientific inventions, this rigid and well established system becomes increasingly less adequate for meeting the social problems that arise: hence, phase number two evolves. It is characterized by experimentation, by breaking away from certain established procedures, by proliferation and multiplication of organizations and methods which are attempts to cope with the new conditions, and by breaking up the rigidities of law and custom that seem inadequate for the times. This phase is often referred to as a time of social progress, when new ideas, new inventions, new techniques, new ways of meeting problems in an increasingly complex society are looked upon as the most important contribution any individual can make.

In time, this increasing complexity and multiplicity of agencies, organizations, and associations becomes unwieldy. It is recognized as less efficient than it could be, and then phase number three begins. In this phase there are attempts at integration, merger, consolidation, "teamwork," coordination, rationality, "efficiency and economy," and other measures which attempt to make things orderly and integrated. This means a new set of mores and folkways, a new orderly, rational approach, and the further it goes, the more and more it assumes the characteristics of phase number one, but on a different plane, of course.

Conflicts arise at the points where these phases overlap. Individuals and groups appropriate to phase one stand in the way of experimentation and change demanded by phase two. They want to keep the *status quo*. Individuals and groups appropriate for phase two delay and thwart integrative efforts appropriate to phase three. They do not want consolidation, simpler or more comprehensive organizational patterns; instead they want to continue experimenting, proliferating, and multiplying organizations, committees, and instrumentalities. Persons appropriate for phase three may not be appropriate for phase one as it comes around again. They want to keep on centralizing, integrating, and consolidating.

HOW ORGANIZATIONS DEVELOP

It is probable that professional organizations, including The American Dietetic Association as well as the American Association of Social Workers, came into existence during a phase two in our American society. Both of these organizations were born a few months prior to the American entry into World

[1] Presented at the 35th Annual Meeting of The American Dietetic Association in Minneapolis, on October 23, 1952.

War I, at a time when the new inventions of science and technology, as well as dawning insights into newer understanding of human behavior and motivation, were demanding a change from the phase one. It was at the end of that century which historians have called the "pax Britannica." Sweeping social changes with the unprecedented toppling of monarchies, the verve of emerging new social organizations, and the astounding era of science and invention were already begun.

At such a point in history, new organizations and professions emerge. Any such new association comes into existence because a sense of identity and mission comes to a few experimenters, and with enthusiasm and a feeling of driving responsibility they begin the task of creating a strong and purposeful organization. Early years of such an association are characterized by most, if not all, members having a strong sense of belonging, of personal closeness to the affairs and concerns of their association at local, state, and national levels. A warm acceptance of each other, accompanied by ease of communication with each other, reinforces this early identification and results in enthusiastic membership participation. As an organization grows older and bigger, the sense of kinship lessens, and conscious measures must be provided to bring satisfactory coordination and participation.

ESSENTIALS OF COORDINATION

Coordination in any association depends on certain essentials. First, the purpose for the association and each of its sub-parts must be clearly stated and in sufficient detail to give concrete meaning to its reason for being. This purpose must be accepted by and believed in by all members. Second, there must be a structural organization which is well known and accepted by the entire membership. This involves a clear division of work into such units as may be possible of performance by a given individual or group, together with agreed-upon methods for performing association tasks. Third, there must be leadership exercised by appropriate individuals. Leadership, as you know, consists of the art of inspiring people to work together harmoniously and effectively. Fourth, there must be continuous study and evaluation of the organization and the process of working together. Coordination depends in great measure on as many direct, face-to-face contacts between members and officers as is feasible. Conventions, such as The American Dietetic Association's Annual Meeting, play an important role in this connection. Coordination depends also upon giving all members a knowledge and appreciation of the tradition, history, and accomplishments of the organization. Coordination is a dynamic process—that is, it is a continuous process of adjustment, of agreement and renewed agreements on purpose and direction, of organization and reorganization, of acceptance of method and modification of method, of stability and change. It is a problem-solving continuum.

WHAT PARTICIPATION MEANS

Encouraging and evoking responsible participation from the membership of a professional association involves several important parts. It should be remembered that every person in any association is a member of other conflicting groups. One may be a member of The American Dietetic Association and at the same time belong to other clubs, groups, associations, or organizations. Consciously or unconsciously each person will arrange these memberships into some priority order of importance to himself. One of the problems in obtaining active membership participation for any given organization is to persuade each person to place *this* particular membership relatively high on *his* priority list. He must be interested, but in addition must move from mere interest to a feeling of responsibility. He must regard himself as answerable, or accountable, or obliged to fulfill a trust in faithful fashion. This feeling of responsibility is not merely intellectual; it is moral and emotional as well.

To participate means to identify with, become ego-involved, goal-oriented, and task-centered. The true participant shares in common with others. His activity is joint or plural activity developed as a member of a working team.

We are indebted to Professor Harleigh Trecker, Dean of the School of Social Work, University of Connecticut, for summarizing for us some most important considerations connected with responsible participation (1). I am borrowing from his ideas and paraphrasing them in making the following points:

THE ACTIVE PARTICIPANT

An individual is participating responsibly as a member of his association if he:

(a) In accepting membership understands and determines he will give to it adequate time.

(b) Attends meetings regularly and takes steps to acquaint himself with what is happening. Indifference does not develop intelligence.

(c) Contributes ideas, experiences, opinions, and beliefs. This is more than mere talk. It is thoughtful discussion of interacting minds.

(d) Cooperates with group leadership and helps the association to get and retain focus upon primary issues and goals.

(e) Knows the purpose of the association, or if not clear, he is willing to inquire about it and get it straight.

(f) Behaves responsibly toward assignments, comes to meetings prepared.

(g) Is fair and reasonable in the amount of time he consumes in the group and tries to get others involved.

(h) Keeps discussions objective and relates or blends his ideas with those of other members.

(i) Evaluates his own role and responsibility as a participating member.

FACTORS WHICH PROMOTE PARTICIPATION

There are certain conditions under which individuals and groups are likely to participate responsibly. To promote these conditions an association should:

(a) Give the member the feeling that his task is one of consequence. It must be important to him.

(b) Where creative thinking is required, give the members open-ended questions and guarantee that the result of group thinking will be used.

(c) Make the individuals in the group feel secure enough to differ with one another without fear of loss of status or possible reprisals.

(d) Consciously assign status values and recognition to individuals and groups who are good teamworkers and are productive.

(e) Make the purposes of the association and of the group clear. Define and re-define them repeatedly.

(f) Regulate the pace and timing of association activities to fit the member readiness.

(g) Distribute the work widely and make provision for follow-up and coordination.

(h) Foster the growth of group consciousness. People do not work together with unity and efficiency until "groupness" has emerged.

(i) Evaluate and publish widely the results of group and association productivity.

I leave it to you to fill in for yourself the implications for The American Dietetic Association. Where and how to work upon them must be your own consideration.

HUMAN MOTIVATIONS

In addition to the points paraphrased from Professor Trecker, I would point out to you that behind all voluntary human action is a want or desire of the person himself accompanied by an idea or belief that what he is about to do will help in the realization of that want or desire. Some of the wants that influence action are desires for approval, commendation, or applause; for the maintenance of self-respect; for actions and life that will be remembered; for conquest; for activity that is creative; for the welfare of one's family. And, of course, behind all these lie the basic drives for race survival, physical survival, social status, adjustment to stimuli, the wish to dominate, and the desire to achieve.

The want or desire that motivates human action, if it is to contribute to responsible group participation, must be not only selfish but social in character. It will become social only as it is identified with important social goals.

What more fundamental social goal can there be than the one laid before The American Dietetic Association? Are you not dedicated to an improved community service in one of the most elemental and fundamental areas of human need—nutrition? With such an important area of human need as your concern and your area of competence, you have a challenge as great as any to consolidate your individual and group effort for the welfare of mankind. Participation in the affairs of your Association becomes, then, for you, more than a privilege—it becomes a necessity if your Association is to fulfill its social purpose to the American community.

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Installation Specifications for Equipment

In its recent booklet on standards for *Soda Fountain and Luncheonette Equipment*, the National Sanitation Foundation lists the following general specifications for *installation:*

SPACE BETWEEN UNITS: The space between adjoining units shall be completely sealed at top and operator's side against entrance of food or debris or there shall be space between units of not less than 8 in.

SPLASH BOARDS shall be applied to the backs of all units of less than counter height and at ends, if fitting against return ends of counters. Such units shall include ice cream cabinets, when used for dispensing bulk ice cream, or if there is a continuous work surface between an ice cream cabinet and other soda fountain units. Splash boards shall be sealed water tight to the working surface of units, and shall extend to within 1 in. or less of the underside of the counter top slabs. All joints shall be smooth and every interior angle shall have a radius of $\frac{1}{16}$ in. or more.

TOP SLABS: Top slabs of a counter or back bar extending over the sirup rail of a creamer, or bobtail, or over the top of counter-height units, shall be sealed to such units. Top slabs covering back bar or "back wall" type installations shall be sealed to prevent seepage into the space behind top slabs.

SERVICE CONNECTIONS: Shall be so made as to minimize horizontal pipes, conduits, or wires between the bottom of any unit and the floor.

SINK SECTIONS: Hot and cold water connections shall be made to each sink protected against back siphonage in accordance with state and local plumbing codes.

Current Comment

THIRTY THOUSAND BOSSES EVERY DAY

WINIFRED W. ELIASON

Director of Food, The Greenfield-Mills Restaurant Company, Detroit

Whether we are in foods work in restaurants, hospitals, or schools, our aims are the same—satisfying our customers. True, we in restaurants have a little different problem in attracting and holding our customers than you do in hospitals—but perhaps you have more problems in satisfying sick people than we who serve well people. Nevertheless, basically our problems are very similar.

The owner and president of our company has a favorite remark about customer satisfaction. "We are not the bosses in this organization—the bosses are on the other side of our counters. They hire and fire us three times a day. *Our* bosses are our customers." Of course, in the commercial food business that is very true, for we rise or fall depending on whether we satisfy people, and there is no hesitation on the part of our thirty thousand "bosses" in notifying us of dissatisfaction.

Ask yourself what is the most important factor in customer satisfaction. Is it atmosphere alone—a beautifully decorated, air-conditioned dining room with soft music? Is it low prices alone? Good service alone? Or, *can* it be good food alone?

Think of the shacks that have flourished without the special addition of beautiful atmosphere, without any special attempt at nicety of service, certainly without benefit of stainless steel kitchens, *but* with food which has that superlative taste that makes people talk and come back for more! Don't misunderstand. I am not trying to minimize the importance of atmosphere and good service as contributory factors, because I am sure they help. However, with *all* of these and *without* good food, you cannot have lasting customer satisfaction.

We, as food administrators, must not forget that food must taste good and look as good as it tastes, that merely cooking it to preserve vitamins and other food values without thinking of the final enjoyment of consuming it is not enough. We have a real challenge to improve our food standards and to instill in our students who will follow us, the desire to do a better job of producing food that will bring ever greater customer satisfaction.

[1] Presented at the 35th Annual Meeting of The American Dietetic Association in Minneapolis, on October 21, 1952.

PURCHASING QUALITY FOOD

What can we do to reach this goal? First, we must realize that there is no compromise with quality. We must have good food to work with to produce good food as an end product. It takes study of the market and first-hand knowledge to know what to buy. And, to achieve uniformity, there must be cooperation between the purchasing department and the person responsible for producing the food. A list of buying specifications has been our answer to that problem. We specify what we want, and the purchasing department procures it at the best price available. In order to follow standardized recipes, we have found that we must have the same brands of flour, salt, vanilla, baking powder, cornstarch, and countless other items each time or there is no uniformity in our products. Of course, with five restaurants in four cities all using the same recipes, it is even more important.

Much of our buying is done through the central office in Detroit by contracts and in carload lots and allocated to each city to be drawn upon as needed. For canned goods or frozen vegetables and fruits, samples from each purveyor are gathered together at one time. Labels are removed, samples are identified only by numbers, and the best product according to our specifications is selected.

Sometimes we find that of all the samples submitted, none meet our specifications. When that happens we search further or try to find a packer who is interested enough to pack something special for us. A few years ago we decided to use frozen apples for pie between May and October, when fresh apples held in storage are apt to have lost their freshness and flavor and before the new crop is ready. Fourteen different samples were submitted. After they were inspected, drained, weighed, and baked, we could not select one from the fourteen that had the right flavor and color. We rejected all fourteen and searched further until we found a pack that tasted and looked like fresh apples with no distortion of flavor.

We have certain size and quality specifications for meat, fish, and poultry, too, that we try to maintain. Pork chops as served on our counters have more customer attraction if they are cut from 10- to 12-lb. loins than from smaller or larger loins. For fried chicken we specify 32 to 33 lb. per dozen, or 2-lb., 10-oz. broilers eviscerated with only a slight leeway in ounces. This size is best for our type of service and our price range, and we insist on a uniform size in

the weight range specified. We like beef ribs weighing 28 to 32 lb. because that size does not need to be sliced too thin to meet our portion requirements.

A few years ago we had difficulty stating the amount of salt to be used in a recipe, because as recipes were used in the various cities, soups and sauces would be too salty or not salty enough. We have now settled on one brand of salt for cooking which has no magnesium carbonate added. Our flour proved another hurdle to using standardized recipes, and we now buy directly under a general contract, which assures us of the same flour in each restaurant.

STANDARDIZED RECIPES AND METHODS

Second, after we obtain uniform quality food to use in our cooking, it is part of our responsibility to see that it is prepared correctly without ruining it. You all know how easily good food can be spoiled by poor or careless handling—undercooking or overcooking, poor timing, wrong temperatures, improper seasoning. There are so many *little* things that happen to ruin our efforts!

What can we do about it? Since we accept and recognize it as our responsibility to produce the food as well as we know how, we can establish standardized recipes that work, and proper methods of preparation. Do I detect someone thinking, "That word *establish* is more easily said than done!"? That is part of our challenge, but the results are very rewarding after you have succeeded.

You will notice that I mentioned *recipes that work*. Standardized recipes that really work are very important to producing good food. After several years of testing, ours have been worked out to the smallest detail, including ingredients stated in weights when possible, seasonings, methods of procedure, baking directions, oven temperatures, length of time of baking, sizes of pieces of meats and vegetables for stews, yield, number of portions, weight of portions, which kind of dish to use, and what garnish to add.

TRAINING

However, merely having recipes is not sufficient if they are not used. The difficulty in enlisting cooperation of old-timers in the kitchen is often due to causes other than the favorite excuse "the recipe doesn't work." We did not realize at the beginning the limitations of the reading ability of the people who were using the recipes. Often we found that employees could not read, and when they could read words, it was difficult for them to *understand* what they read. Also, it takes more time to read a recipe the first time than they feel they can devote to one 'em. Therefore they scan it, often missing some very important points. It is amazing how difficult it is to write directions for doing a job explicitly enough and in a simple enough language for employees to produce the picture you have in mind. Therefore, we depend a great deal on the Training Within Industry method of telling, showing, and having the employee demonstrate how to do the job.

We have a chef in charge of the kitchen, a head baker, and a head salad maker. They are all under the direction of the production manager who is a trained home economist, having had her internship in our own restaurants. These heads of departments are responsible for supervising the work of employees of their departments, as well as doing some work themselves. When the production manager presents a new recipe to the chef, if it is similar to one he already has and simple to understand—for example, a soup recipe—she may read it aloud going over the method of procedure step by step to be sure he knows how to make the product. If it is complicated in any respect, she goes over the recipe step by step in a demonstration where he does the work and she stands by to be sure all points are properly interpreted. Then the chef teaches others who are expected to make the product thereafter. We have found that a meeting with the chef or other department heads the afternoon before is the best time to check recipes. At that time, the rush of the day's work is over and they have time to sit down and listen without the worry and pressure of work to be done.

Because it is important for the production manager to train employees intelligently, we insist that she know how to do all of the jobs in the kitchen with a fair amount of skill—enough to give her the confidence to show the cooks, bakers, and salad makers how to do the job.

As a check on possible errors—and they do happen, of course—we taste the food before and during each meal, tasting critically and thoughtfully to insure our foods being kept up to standard as to freshness and flavor. There is one ingredient that we have found indispensable in food production. There is no substitute for *supervision*.

STYLING FOOD

There is a third point in our program of assuring customer satisfaction—that of providing "Vitamin I." That is that most elusive and necessary component of food that makes it look so mouthwateringly good that you can't pass it by—eye appeal.

We have long had a synonym for eye appeal—"styling." We borrowed it from the dressmaking trade. You know how a dress is perked up by that added touch of a row of buttons or even a tuck or two put in at certain points to give a better fit—a more stylish look? We feel that food needs that special attention, too—the final touch or garnish often makes the difference between a fast-selling item on our counters or a slow-moving one.

Even before we add that finishing touch, there are important details to consider because, after all, eye

appeal starts way back in the kitchen where the cooks start working on the raw products. That is why we are extremely anxious to buy the best materials we can find and then be extremely careful in our handling. We know that food must taste as good as it looks. No matter how many frills one adds or to what extremes one goes in presentation, the sales will not repeat without taste satisfaction.

In preparing food that has eye appeal, we have stressed many small details which seem unimportant and even ridiculous until they are analyzed for reasons behind our insistence. Our recipes carry particular and definite instructions as to sizes and shapes of pieces to be used; for instance, in the recipes for stews, the size of meat cubes—1 oz. each, carrots—cut in 1-in. pieces, potato balls—¾ in. in diameter. Of course, we do not insist that each piece be measured exactly, that *would* be ridiculous. We do want them near 1 in., not ½ in. or 2 in. which would put our recipes out of balance, since we also detail instructions for serving and size of portion—4 pieces of meat, 2 pieces of each vegetable, and 1 whole onion. Thus, in stating the recipe definitely, we have some assurance that it will look the same each time it is served in Cleveland, Columbus, Cincinnati, or Detroit.

It is not by accident that our fried chicken has that smooth evenly browned golden appearance and that each piece looks exactly like the next. That is a result of our ever-watchful attention to the styling or eye appeal of our foods. The buyer is careful to purchase only chicken that falls into our specified limited weight ranges and the cooks are careful to tuck the wings back and under to hold the breast pieces in shape. Then they carefully flour each piece and brown it in fat that is just hot *enough*—not *too hot* to frizzle the flour coating away.

One other product which appears on our counters quite frequently and the sale of which is considerably influenced by its styling is "scalloped salmon, noodles, and eggs." Uninteresting sounding concoction, isn't it? It looks uninteresting in the kitchen, too, before the styling is completed, but it tastes very good. When we first started serving it, we couldn't make it sell. It looked too bland and flat and colorless. We decided it was like a Mother Hubbard apron—just no style! To make it look as good as it tasted, we topped the pan with buttered soft bread crumbs well rubbed together and browned it—not too fast—in a moderate oven. The result was a golden brown, evenly covered topping that covers the bland whiteness of the creamed noodles below. Then we needed a little touch of color and we added sliced green pepper rings with a section of egg in the center of each one. Immediately the sale picked up, and now we sell it so fast we can scarcely keep it on the counter.

Sometimes the cooks think we overwork the term "golden brown," but there is a vast difference in the eye appeal of a veal chop fried to a *golden brown* instead of a dark, unappetizing, almost burned brown.

For a garnish we often use a sprig of parsley, and we try to have it crisp and upstanding—not tired and sad. This appearance of freshness is all-important to merchandising. To have eye appeal and style, it is imperative that food have that bright look; the gravy should be moist and shiny, not dull, coagulated, and scummy looking; meat should be moist and succulent, not curled up and looking like shoe leather; vegetables should be as near their original color and texture as possible; and salads should be crisp and colorful, not watery, dry, or wilted.

So you ask, what do you do to assure customer satisfaction? Everything we do is indirectly toward that goal, and in accomplishing this we are satisfying our own desires to do a creditable job. If we do a good job and conscientiously work at it, without becoming self-satisfied or content with mediocrity, customer satisfaction is an automatic result. We try constantly to give our customers a good variety of foods at prices that are fair and reasonable, served attractively, being constantly on guard to keep our food standards high.

QUALITY FOOD PRODUCTION[1]

LENORE M. SULLIVAN

Professor, Institution Management, Iowa State College, Ames

To arrive at a basic understanding of what quality food production is, we must first define what we mean by quality in food. Then we might ask ourselves the question; "How is quality food production achieved and what can we, as individuals in our own organizations, do about it?"

For a technical definition of food quality, let us go to the food technologists. They say, "Quality is the sum of the characteristics of the given food item which influence the acceptability or preference for that food by the consumer." Someone else may say that quality food is food that is well prepared and attractively served, but most important of all, that it really does *taste* good. This emphatically does not mean exotic food or expensive food, but food that has an almost indefinable something that lifts it out of the ordinary. Quality food is food with a touch of genius, one might say. And it is the acceptability by the consumer, whether he be the customer in the restaurant, the patient in the hospital, or the student in the school or college, that is important. Quality food production should mean a satisfied customer or consumer.

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[1] Presented at the 35th Annual Meeting of The American Dietetic Association in Minneapolis, on October 22, 1952.

plain vegetables can be taste tempting!

Smooth, golden cheese sauce adds color appeal and taste appeal to "everyday" vegetables, makes them more welcome to lagging appetites. But that's only one reason why Pet Milk Cheese Sauce is a favorite with those who plan and prepare quantity meals.

Made with Pet Evaporated Milk, Cheese Sauce contains *twice as much* milk nourishment as similar sauces using bottled milk . . . has a richer flavor and thicker consistency, too. In this, as in many other cooked foods and beverages, Pet Milk makes it easy to include extra milk nourishment in all meals.

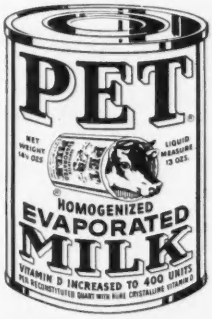
Mixed Vegetables in

CHEESE SAUCE

(For 50)

INGREDIENTS	AMOUNTS OR WEIGHTS
Sliced carrots	4 lbs.
Diced potatoes	8 lbs.
Boiling water	1 gallon
Salt	¼ cup (2 oz.)
Coarsely chopped cabbage	3 lbs.
Butter or other shortening	1 cup (½ lb.)
Flour	1½ cups (6 oz.)
Pepper	1 teaspoon
Pet Evaporated Milk	5 tall cans
Grated American cheese	3 lbs.

Cook carrots and potatoes 20 minutes in boiling water and 1½ tablespoons salt. Add cabbage and continue boiling, uncovered, for 10 minutes longer or until vegetables are tender. Drain and save liquid. There should be 2 quarts vegetable liquid. If not, add water. Melt butter. Blend in flour, rest of salt and the pepper. Stir in vegetable liquid, then boil and stir 2 minutes. Stir in milk. Add cheese and heat slowly, stirring all the time, until the cheese is melted. Add drained vegetables and heat slowly, but do not boil. Serve hot. Makes about 50 servings of 4 ounces each.



FREE "50 Recipes Serving 50"—a complete set of quantity recipes for main dishes, salads, desserts, breads, soups, beverages. Color-indexed for easier use. Includes "trial-size" recipes for 6. For your copy write:

Home Economics Dept., PET MILK CO., 1450-E Arcade Bldg., St. Louis 1, Mo.

We know that today in this country many millions of meals are served outside of the home. Thus, the well-being and happiness of the many people who eat these meals are in the hands of the dietitians responsible for the planning, buying, and serving of the food for this large group. This offers a great opportunity as well as a real challenge to each of us. The nutritional needs of the group must be studied and provided for, always within budget limits. That is why this matter of quality food production assumes so much importance.

How are we going to achieve quality food production? That is the $64 question! I know of no magic method, no one formula that will suffice for everyone. We all know that the goal cannot be accomplished by sitting at a desk and waving a wand. First, it seems to me, we must formulate an underlying philosophy for our own food service. If one has a restaurant, will the philosophy be "the best food available in the high priced field" *or* "the best food in the low priced field"? If it is a college food service, will it be "one that contributes to the total educative process of a young person"? If it is hospital food service, will it be "the service of food that is of prime therapeutic value in the restoration of health and that is also a morale builder"? There is perhaps an even greater thrill in the restoration of health than in its maintenance. Whatever type of food service we are responsible for, we should clearly define our goals and formulate procedures and policies by which quality food production may be accomplished.

We are all aware of the tools and procedures which are of great help in producing quality food in quantity. The food must be carefully planned with an eye to its nutritive as well as its aesthetic value. It must be purchased according to specification by a trained and qualified person. Proper facilities must be provided for the receiving, storing, and handling of food with due regard to sanitation. Good supervision of the production areas by a competent person who works well with people and who can inspire the workers to do an excellent job is needed. Standardized recipes, the proper techniques of cookery, and a food cost control system that is effective for our particular set-up are also necessary. The basic product must be good—the best that you can buy for the money you have to spend. Attention to detail in every phase of food planning, buying, preparation, and service is the only way by which quality food can be assured. This cannot be accomplished by one person alone; rather, it must be through the united effort of the entire food organization. The importance of the role of each person who works for you cannot be overemphasized. You must express your idea of quality food, its personality, and its distinctiveness through your employees. Each person must know what you mean by quality food and be kept on his toes to produce it.

IMPORTANCE OF TASTING

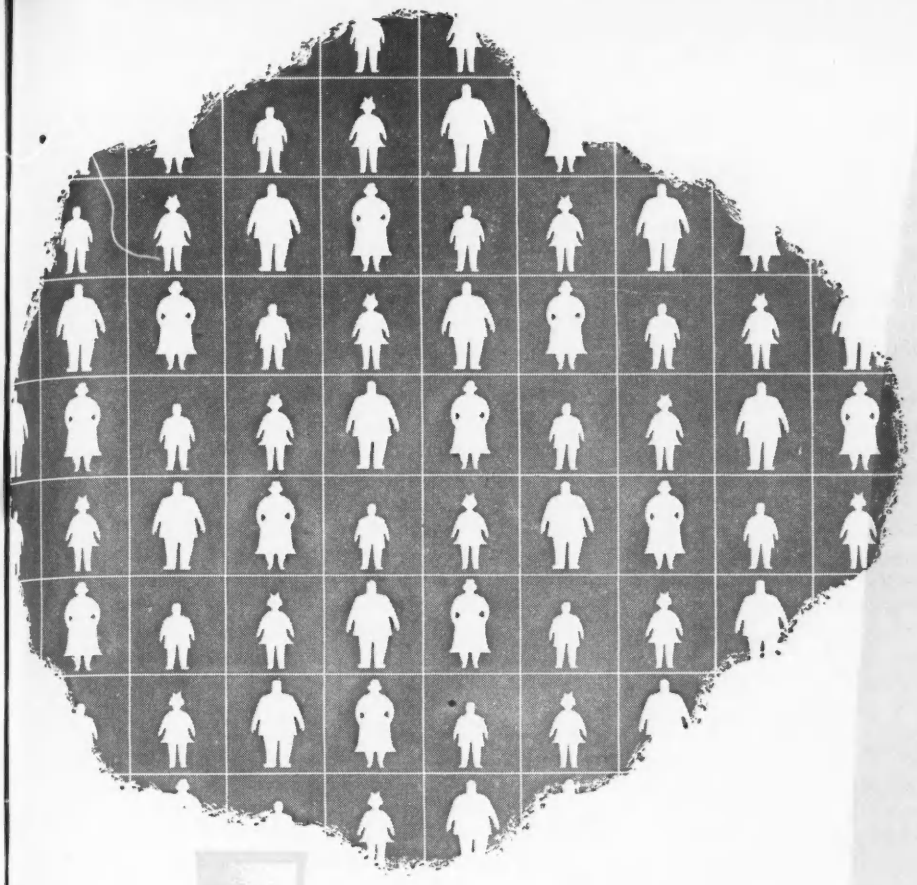
During the preparation period and after the food has been prepared, tasting for flavor, texture, and temperature is very important. You must do some of it yourself or have someone upon whose judgment you rely do it for you. We might ask, "What is the ultimate objective of tasting?" I think Helen Buik of Eaton's in Toronto expressed it very well when she said that the ultimate objective of tasting is perfection! "Use your imagination when you taste—is there any ingredient which will make this food taste better than it does now? Taste not only for something wrong, but for perfection!" Another good idea is mentally to taste the food you are planning and visualize it on the plate as it will be served.

Sometimes we assume that expensive ingredients are what make the dish whereas it is really perfection of detail that is most important, not only in the preparation but in the service. It is here that the touch of genius comes in—the subtle blending of seasoning for a superb sauce, a dash of herbs to a meat dish, just the right garnish to give a dish distinction, vegetables beautifully cooked and well seasoned, flaky tender pastry, fluffy hot rolls, fine-textured cake. The personality of the person in charge who is ever alert and vigilant and whose standard is perfection can produce such results.

TEACHERS' OPPORTUNITIES

What can we as individuals do in our own situations to encourage quality food production and help raise food standards? We're doing a teaching job in whatever phase of food work we are in, but those of us directly in the educational field have a unique opportunity. The college students of today are your dietitians of tomorrow. We can help plan the curriculum so that the students get a sound training in the basic sciences as well as in food, nutrition, and institution management. However, it seems to me that, in addition, we should help to develop in the student a sixth sense or sensitivity about food and people's reactions to it. If possible in college foods courses, the student should learn something of the food habits and preferences in the different sections of the country and the background for these differences. They should thus gain a tolerance and understanding of the people in different regions and be able to translate nutritionally adequate food into the type of food people will like and accept in the particular part of the country where they may find themselves.

In our catering classes, the students prepare and serve the foods typical of the different geographic sections. They taste and judge the food not on a score card, but by their own reaction to it. Often what they do not like is the food that is unfamiliar to them. If we have students from other countries



26 MILLION OVERWEIGHT AMERICANS

will be grateful for CITRUS this year . . .

A 4-oz. glass of orange or grapefruit juice half an hour before lunch and dinner can materially reduce the demand for high-caloric foods, and enable the obese to adhere to their dietary regimens more satisfactorily. Citrus is particularly appealing because it is a "natural", non-medicinal, appetite-appeaser.

Other advantages of citrus, as an anoretic agent, are its readily utilizable carbohydrates (approximately 10-15 gm. per glass) which combat hypoglycemia—its almost universal availability—its popular flavor—and its economy.

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in our classes, we prepare food which is typical of those countries, as an English high tea, a buffet featuring the foods of India, a French dinner, Swedish smorgasbord, and food of the Philippines and of China to mention only a few. This helps the student see the glamour and personality in food, that it can be an exciting medium to work in, and that food production can really be a creative, artistic effort.

I believe, also, that we should encourage an open mind and an experimental approach so that students are willing to try new foods, new recipes, and new ideas. We have an experimental quantity cookery class in which the student who has had some experience and has a particular problem may try to find its solution. We always have the problem of increasing a good small-quantity recipe to a large-quantity one that is of equal quality, and this has been the basis of many interesting problems. Other types of problems that we have worked with are the development of hard meringues, a caramel frosting that will spread easily and has good shelf life, puff pastry, an all-purpose mix in quantity, and the use of dried milk and eggs. The class, of course, scores and judges the product, and the development of a quality product is one of the main objectives. Much the same thing is done in the test kitchens set up in commercial restaurants and colleges to produce and control quality products throughout their organizations.

If it is possible to take movies or make color slides of your most attractive dishes, this helps to dramatize the food you are producing and affords a good teaching medium for employees or students.

To produce quality food, we need an abundance of enthusiasm for the job, so that those working with us may share it. Often we get so wrapped up in the mechanics of the job that we forget our primary objective of good food. To produce quality food in any organization, it seems to me that a sound philosophy and understanding of the job are necessary, a workable policy that implements this philosophy, and attention to detail in every phase of food production and service.

DEVOTED BEDSIDE DIETARY CARE[1]

SISTER MARY VICTOR

Department of Nutrition, Saint Marys Hospital, Rochester, Minnesota

The hospital dietitian has two distinct groups of customers: the first consists of patients, the second of those caring for the patients, the hospital staff. Up to a certain point, satisfactory food service to both groups involves the same basic principles of scientific food administration. As is well known, these are:

(a) Efficient kitchen layout and equipment.

(b) Enlightened employee training and supervision.

(c) Painstaking and discriminating menu planning.

(d) Intelligent food purchasing, storage, and issuing.

(e) Precise methods of food cost control.

(f) High quality food preparation.

(g) Attractive food service with all that it presupposes of scientific methods and unceasing vigilance.

The importance of these basic principles of food administration in assuring a satisfied customer, whether he be a restaurant patron or a hospital patient, cannot be over-emphasized. The observance of these principles equates customer satisfaction among the hospital staff. But to assure satisfaction as far as the patient is concerned, the dietitian must go further and render what we might call *devoted bedside dietary care*. This is necessary because we are dealing with sick individuals, some of whom find it difficult to accept their illness. It is doubly necessary when restrictions in their usual dietary habits are required.

Devoted bedside dietary care—what does it involve? It involves a very direct application of some of the dietitian's specialized learning and training to the personal affairs of the patient. As a practitioner of dietetics, the dietitian will not only plan the diet prescribed by the physician, but will adjust it to fit the individual and then instruct and motivate. To make the dietary program fit the patient, the dietitian must be familiar with the nature of his disease, with the part that dietary management should play in his total care, and with the circumstances having a bearing on the outcome of treatment.

THE PATIENT'S IMPORTANCE

Dietary instruction includes the imparting of factual information about the patient's nutritional needs. Regular bedside visits afford ideal opportunity for clarifying the reason for the appearance or non-appearance of certain foods on the tray and for dealing with the patient's immediate and specific dietary problems. But, the patient must be motivated before he will learn. To motivate effectively, the dietitian must be convinced that the patient is the most important person in the hospital, that the hospital exists for the patient, and that it has no other reason for existence.

Recently, statues of the Mayo brothers were dedicated in Rochester, Minnesota. In speaking at the dedication ceremonies, Congressman Walter H. Judd, a former Fellow of the Mayo Foundation, stressed the importance of this singleness of purpose.

[1] Presented at the 35th Annual Meeting of The American Dietetic Association in Minneapolis, on October 21, 1952.

GIVE SPRING MEALS A WELCOME LIFT WITH NATURE'S MOST REFRESHING FLAVOR!

Watch folks greet MEAT and CANNED PINEAPPLE!

Canned Pineapple turns lamb chops into a "chef's special"! This easy dish—featured in May Canned Pineapple Industry ads—is one of many ways to "dress up" foods with this tropic fruit. Served *any* way, Pineapple's golden color and refreshing flavor make meals more inviting. Use it often. There's no surer way to please!

Surprise 'em with PINEAPPLE SUNDAES!

Spoon golden Crushed Pineapple over ice cream! Serve tempting Pineapple Sundaes—as featured in June Canned Pineapple Industry advertising. You fix them in a jiffy, because Canned Pineapple is ready to use right from the can. Portion control's easy, too, when you serve this glamor fruit. And there's no waste because all five forms are always top quality. Start saving by serving more Canned Pineapple now!

JUICE SLICES CHUNKS CRUSHED TIDBITS

Spring or any season... the 5 forms of Canned Pineapple add refreshing variety to meals

He said in effect that the Doctors Mayo never forgot that every single building, every single test tube, every single thing about the institution existed for one purpose only—the well-being of the patient. Congressman Judd said: "We must never forget the patient. This singleness of purpose is the great motivating spirit that will cause an institution devoted to the care of the sick to live forever if it is remembered or to fail if it is forgotten." We might well add as a corollary that the hospital dietitian will succeed or fail insofar as she remembers or forgets the patient.

Unfortunately, the hospital dietitian sometimes becomes so weighed down with accounting, record keeping, and other similar duties that there is danger of her forgetting the patient. The current movement to relieve her of non-dietetic duties is certainly a step in the right direction. Surveys show that there are many responsibilities now carried by dietitians which readily can be delegated to parallel workers or to other hospital departments.

THE PROFESSIONAL SPIRIT

Devoted bedside dietary care demands a truly professional spirit—the obligation to subordinate personal consideration to the interest of the patient, in other words the giving of self. It implies—and this is worth recalling—the recognition that Mr. Jones when sick and hospitalized is an entirely different man from the same Mr. Jones when well and healthy. From this there follows the need of a sympathetic understanding of a sick person's reactions to the imposition of dietary restrictions. The dietitian often will have need of all the psychologic skills at her command in order that she can utilize her scientific knowledge to aid the patient to understand and accept the dietary program prescribed for him.

Devoted bedside dietary care implies the right attitude toward the patient. This is essential because the dietitian cannot prevent her real attitude toward him and his illness from being recognized. The desirable attitude can never be expressed any better than it was by Longfellow in "The Legend Beautiful," one of the poems in his *Tales of a Wayside Inn.* You will remember the tale as told by the theologian. A monk praying in his chamber all alone had a Blessed Vision of our Saviour, and almost simultaneously he heard the monastery bell summoning him to his daily task of feeding the poor at the gate. Great was the monk's reluctance to leave the Vision, but his sense of duty prevailed and he left the Vision to go to the gate and distribute bread to those waiting there. Upon returning, much to his surprise, the monk found the Vision still waiting, and he heard the words: "Hadst thou stayed, I must have fled"—for

> "Whatsoever thing thou doest
> To the least of mine and lowest,
> That thou doest unto Me."

Nowhere so much as in the hospital does the emotional reaction or the mind-set of the customer have so great an influence on the acceptability of a meal. For this reason, I have attempted to express a few thoughts on the significant part the dietitian may play in helping the patient with his problems and thus assure customer satisfaction.

The Service of Brand Names

Are the foods available to the American public becoming more nutritious year by year, or less so? In our search for the answer, we are led at once to a scrutiny of food processing. We all know that a large and growing fraction of the nation's food supply is now industrially processed before it reaches the consumer.

Within the past twenty or twenty-five years, major changes have become apparent. Bulk groceries have been almost entirely supplanted by nationally advertised prepackaged goods. The entire retail frozen food industry has come into being. Since 1929, while our consumption of meats, fluid milk, eggs, and fresh vegetables was rising by about 10 to 20 per cent per capita, consumption of canned vegetables per capita was rising by about 40 per cent, and of canned fruits and fruit juices more than 100 per cent.

Brand names that have become well known to the housewife, because of advertising, have acquired fabulous money values. This simple fact has far-reaching consequences in the processing plant, and in the character of the food which reaches the family table. The article sold under a brand name must be uniform, always good, any time, any place. In the plant, exacting standards must be maintained. Since the product must be good not only when it is freshly packed, but also when it comes into the housewife's hands after all the vicissitudes of transportation, handling, and storage, a high premium is automatically placed on making such improvements in processing and packaging as will assure quality stability. And finally, as public knowledge of nutritional facts becomes broader, vitamins, essential amino acids, and minerals become a part of the advertising story, and processing technology must follow with improvements as far and as fast as it can.

We have certainly not seen the culmination of this trend. It holds great promise for the nutritional well-being of our people.—*G. E. Hilbert, Bureau of Agricultural and Industrial Chemistry, U. S. Department of Agriculture, speaking before the National Food and Nutrition Institute in Washington, D. C., on December 9, 1952.*

"DAN PANDY" SAYS:

GET POTS AND PANS

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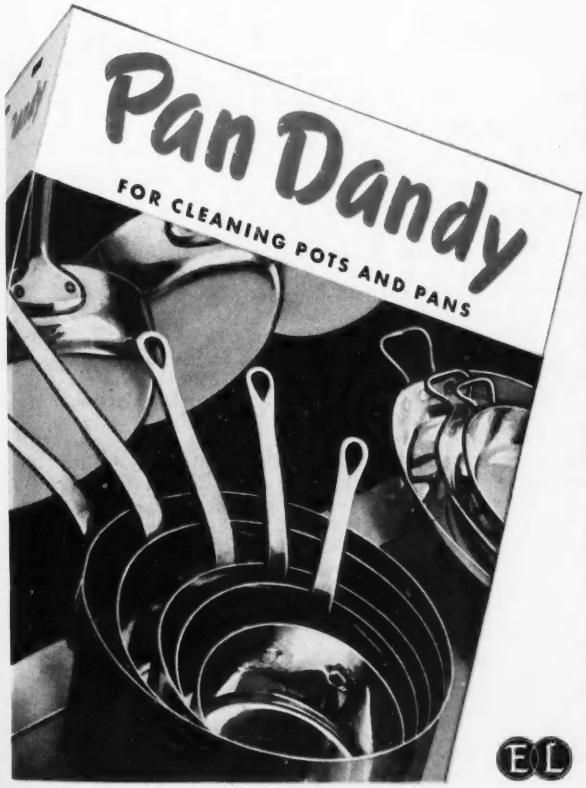

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Try Pan Dandy and you'll agree it's *America's finest pot and pan cleaner!*

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Book Reviews

Blakiston's Illustrated Pocket Medical Dictionary. Edited by Normand L. Hoerr, Ph.D., M.D.; Arthur Osol, Ph.D.; Samuel W. Chase, Ph.D.; Carl C. Francis, M.D.; Marion G. Howell, LL.D.; and Laura E. Moore. New York: The Blakiston Company, 1952. Cloth. Pp. 1032. Price $3.75.

Comments regarding this volume of medical definitions are limited solely to a criticism of dietary material. Under the term of diet, there is a brief definition of a variety of diets, many of which have become practically obsolete. In the appendix, four types of therapeutic diets (high-vitamin acid-ash, diabetic, low caloric, and high caloric) have been outlined in varying degrees of detail. In view of the frequency with which low-sodium diets and diets for diseases of the gastrointestinal tract are used, one wonders why they were not included. This material is not in accord with present thinking in the field of diet therapy: yeast cakes are prescribed for high-vitamin, acid-ash diets; servings are expressed in odd amounts, such as 2½ oz.; mineral oil salad dressing and Lister's Golden Spread are included in the low caloric diet; and the diabetic diets are presented in a complicated form.

A short table of food composition appears in the appendix. Some of the figures are incorrect, and the source of the data is not a well-known one. The table of vitamins is of limited value. Food sources of the various vitamins are not given, the symptoms of a vitamin deficiency are not included, and not all the known vitamins are listed.

It seems unfortunate that physicians using this book will not have the best and latest information available to them in the area of nutrition and dietetics. The addition to the editorial board of one or more persons from these areas would be one way of remedying some of these discrepancies. —*Elizabeth K. Caso, Nutritionist, Diabetes Section, Division of Chronic Disease and Tuberculosis, U. S. Public Health Service, Boston.*

Accounting for the School Lunch. By Neva Henrietta Radell, Ed.D. New York: Ahrens Publishing Company, 1953. Unbound, mimeographed sheets. Price $1.50.

This is a workbook, "a case with laboratory problems," for use in classes or workshops where students are preparing for careers in food service. It is a well thought out guide for setting up a school lunch accounting system, for a manager who wishes to keep a complete set of books.

The workbook is a self-teaching project presenting a series of accounting problems for a small school lunch operation. A variety of detailed laboratory problems are presented for the purpose of gaining practice in keeping records.

It is clearly written and the language is easily understood. Persons with a minimum knowledge of bookkeeping should be able to learn these various principles. Experienced managers may also gain assistance in checking this method against their own.

It should be pointed out that this system being complete in all detail is somewhat elaborate, and if used in entirety would involve more time than the average manager of a small operation is likely to give. However, any person who has followed the workbook should be able to adapt any portion of it to fit various needs.—*Virginia Priem, Supervisor, Seattle School Lunchrooms, and Mildred Bonnell, Assistant Director, University of Washington Dining Halls, Seattle.*

Modern Trends in Infant Nutrition and Feeding. By Jonathan T. Lanman, M.D. With a foreword by L. Emmett Holt, Jr. Scientific Report Series No. 14. New York: Sugar Research Foundation, Inc., May, 1952. Paper. Pp. 96. Obtainable without charge by addressing Sugar Research Foundation, Inc., 52 Wall Street, New York 5, New York.

This monograph presents modern trends in infant nutrition and feeding with particular emphasis on nutritive requirements. The author introduces his review with a historical sketch of artificial feeding practices and demonstrates how, with the growth of the science of nutrition, infant feeding has become simplified. Formulas are no longer planned by complicated arithmetical computations. The present aim is to "prepare an easily digestible formula upon which the infant can grow and develop normally." This can be accomplished through a wide variety of formulas.

The major part of the book, as has been stated, is devoted to a consideration of the nutritive requirements in infancy. The author prefaces his discussion with the observation that nutritive requirements cannot be stated with finality because of the many circumstances which may alter them and because of the possible relationships in nutrition which are not yet known. His analysis is well documented with "studies which explore the limits of variation compatible with successful nutrition." The bibliography includes 184 references and is a useful part of the monograph.

Since this review is a scientific report of the current status of nutritive requirements in infancy, problems of infant feeding, such as techniques of getting the child to eat, the psychologic aspects of the feeding situation, and so on, are not included.

As a reference on infant nutritive requirements, this report should be valuable.—*Lorraine Weng, Nutritionist, Department of Medicine, University of Illinois College of Medicine, Chicago.*

Food for Your Heart: A Manual for Patient and Physician. New York: American Heart Association, Inc., 1952. Paper. Pp. 48. Available from local heart associations or the American Heart Association on prescription only.

This booklet was prepared by a committee of doctors and scientists with Dr. Fredrick J. Stare as chairman. There are four thumb-indexed sections which make it easily used for ready reference. The four sections are: food for your heart, reducing diets, low-sodium diets, and an appendix. In the first section are included height-weight tables and brief, simple discussions of the roles which cholesterol, sodium, overweight, and diet play in cardiac illness.

Two types of weight-reducing diets, a so-called conventional and a high-protein diet, with sample menus are given in the section on weight reduction. The need for inclusion of basic foods as the foundation for weight reduction is stressed. The feasibility of the limitation of milk in the high-protein diet to one to two cups, with admittedly possible subsequent deficiency of calcium and riboflavin, is open to question and criticism.

The classifications as to levels of sodium are simple and to the point, and they should be of help to the patient in adjusting his menus to the dietary plan. A series of diets and meal plans with variations in sodium and caloric levels

The New Name in Tumblers—

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offer good ideas. A few irregularities and inconsistencies are noted, in that some foods are listed as low-sodium, others unsalted. Interesting suggestions for removing some of the sodium from such products as margarine and cottage cheese are given, but would be more usable with clearer directions or explanations of procedure.

The listing in the appendix of foods according to food groups with subgroupings according to sodium values should help the patient in making selections. The lists would be even more helpful if they were given in size of average portions rather than in 100-gm. amounts. For example, why not give the value of one egg or one slice of bread rather than of 100 gm. of each?

The recipes might well include some suggestions for variations for use by the patient with little imagination. While some casual mention is made of the making of bread in the home, little attention is otherwise given to adjustments in recipes for the patient who lives in an area (and there are many) where special low-sodium foods are not readily available, or for the person with a limited income who cannot afford the special foods. Suggestions for adjustments without special foods would be useful to many persons.

The text is written in a light colorful style which should be easy to read and should hold the interest of the patient.—*Mame Dentler, Nutritionist, Montgomery Ward Clinics, Northwestern University Medical School, Chicago.*

RECENT BOOKS RECEIVED

The Low Sodium Cook Book. By Alma Smith Payne and Dorothy Callahan. Boston: Little, Brown & Company, 1953. Cloth. Pp. 477. Price $4.

Food for Life. Ralph W. Gerard, Ph.D., M.D., ed. Chicago: University of Chicago Press, 1952. Cloth. Pp. 306. Price $4.75.

How to Have a Happy Child. By Beulah France. New York: Sterling Publishing Co., Inc., 1952. Cloth. Pp. 130. Price $2.50.

Better Health with Culinary Herbs. By Ben Charles Harris. Boston: The Christopher Publishing House, 1952. Cloth. Pp. 182. Price $3.

The Rutgers Food Saver. By Walter A. Maclinn, Ph.D. New Brunswick, N. J.: Rutgers University Press, 1952. Paper, hard bound. Pp. 127. Price $2.95.

Famine Disease in German Concentration Camps—Complications and Sequels. By Per Helweg-Larsen, Henrik Hoffmeyer, Jørgen Kieler, Eigil Hess Thaysen, Jørn Jess Thaysen, and Munke Hertel Wulff. Copenhagen: Ejnar Munksgaard, 1952. Paper. Pp. 460. Price Dan. Kr. 35.00.

Evaluation in Home Economics. By Clara Brown Arny. New York: Appleton-Century-Crofts, Inc., 1953. Cloth. Pp. 378. Price $4.

Carbohydrate Metabolism. Rev. ed. By Samuel Soskin, M.D., and Rachmiel Levine, M.D. Chicago: University of Chicago Press, 1952. Cloth. Pp. 346. Price $8.50.

A Vitamin Digest. By Guy W. Clark. Springfield, Ill.: Charles C Thomas, 1952. Cloth. Pp. 254. Price $6.50.

Health Instruction Yearbook 1952. By Oliver E. Byrd, Ed.D., M.D. Stanford, Calif.: Stanford University Press, 1952. Cloth. Pp. 232. Price $3.50.

Cooking for the Sick and Convalescent. By Nell Heaton and V. H. Mottram. London: Faber and Faber Ltd., 1951. Cloth. Pp. 431. Price $6.50.

Chemistry of Food and Nutrition. 8th ed. By Henry C. Sherman. New York: The Macmillan Company, 1952. Cloth. Pp. 721. Price $6.

A Doctor's Soliloquy. By Joseph Hayyim Krimsky, M.D. New York: Philosophical Library, 1953. Cloth Pp. 116. Price $2.75.

Dietary Adequacy of Family Food Supplies

We now consume more meats, poultry and eggs, dairy products, vegetables, and fruits than we did in the late thirties, but fewer potatoes and less grain products. This change has been possible because of the productivity of our farms, and the effectiveness of the food industries and marketing system in making improved food products widely available across the country and throughout the year. We have also enjoyed economic conditions under which an increasing proportion of the people have been able to have the kinds of foods they want.

Calories per person per day in the national food supply have declined from an average of 3450 to 3250, since 1909. On the other hand, over this forty-year period, we have had a shift in the kind of work people do, a movement of population from farms to cities, and widespread use of the automobile and many labor-saving devices in the factory, on farms, and in the home. So perhaps this trend reflects a slightly lower average caloric requirement.

The steady increase in the share of the total calories derived from fat is probably of more importance. There has been a slight increase in grams of fat consumed per capita, and because total calories are down, the percentage from fat has increased rather markedly—from about 32 to 40 per cent. At the same time, the percentage of calories from protein has remained remarkably constant—about 11 per cent, with the result that carbohydrate intake is less. It is clear that this shift towards getting a larger share of our calories from fat is an important characteristic of our present-day diet.

The most spectacular changes in the nutritive value of the national food supply are those resulting from the enrichment of flour and bread with thiamine, riboflavin, niacin, and iron. In addition, the enrichment program has had more effect on the diets of low-income families than those higher in the income scale.—*Esther F. Phipard, Ph.D., Bureau of Human Nutrition and Home Economics, speaking before the National Food and Nutrition Institute in Washington, D. C., on December 8, 1952.*

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* *RATNER, B., AIKMAN, H. L., and THOMAS, J. S.: Allergenicity of Modified and Processed Foodstuffs, Annals of Allergy, Vol. 10, No. 6, Nov-Dec. 1952.*

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The Glucostatic Theory of Obesity

Basic biochemical considerations seem to point toward a definite mechanism which regulates appetite. If hunger centers exist in the hypothalamus, it seems natural to assume that they are adjusted to respond to the depletion of some of the body constituents. That this constituent is protein or fat seems unlikely. The sensitivity of a mechanism that assures constancy of body weight through frequent meals would hardly be understandable if its regulatory balance depended on the minute relative decreases in body protein or body fat that take place over the course of a few hours. On the contrary, carbohydrate stores, liver glycogen, and blood glucose levels are rapidly depleted in the postabsorptive state. Although during fasting, mechanisms of gluconeogenesis insure that blood sugar does not drop below a certain minimum necessary for life, the level never approaches anything near the postprandial value. Furthermore, it is known that the essential, if not the exclusive, source of usable energy for the central nervous system should maintain centers sensitive to variations in this vital metabolite. Hunger would thus be integrated among the mechanisms insuring constancy of the environment of the central nervous system.

To test this concept, a systematic survey of the effect on food intake of various blood levels of certain metabolites was conducted in large numbers of normal animals under strictly controlled conditions. Results were clear-cut; increases in blood sugar levels caused decreases in food intake, and vice versa. Substances without influence on blood glucose did not influence food intake.

From these and numerous other experiments, it could be concluded that in normal animals variations of blood glucose levels regulate food intake. To clarify the apparently paradoxical situation encountered in the hyperphagia of diabetes mellitus or in hunger diabetes, the concept of "effective blood sugar" was introduced. For variations of blood sugar levels to influence hypothalamic glucoreceptors, glucose has to cross the membranes of these cells. This presumably implies phosphorylation through the hexokinase reaction. If phosphorylation is impaired, "effective sugar levels" will be much lower than the values actually measured.

This concept was tested and put on a quantitative basis in experiments performed on human volunteers by consideration of arteriovenous glucose differences. Designated as "Δ-glucose," these differences represent a measure of the rate of tissue removal of glucose. They were found to correlate closely with the caloric intake of individuals and with hunger feelings.

The development of hypothalamic obesity can be divided into three phases. Immediately after cauterization of the hypothalamus, the animals exhibit indiscriminate voracity for food or inert material. This is followed after a few hours by a phase of steady but not voracious overeating, leading to "dynamic" (active) obesity. After a period of weeks or months, "static" obesity, characterized by a normal intake and weight maintenance, ensues. Experimental psychologists have shown that "active" obesity in these animals is characterized not by an increased urge for food, but by the animals' apparent inability to stop eating when food is available. Experiments have demonstrated that the nonfasting glucose levels of the hyperphagic animals are lower than normal in spite of a caloric intake two or three times greater than that of their controls. In fact, an excellent correlation can be established between degree of relative hyperphagia and degree of relative nonfasting glycemia. In static obesity, blood sugar levels are normal or elevated. The fact that in dynamic obesity, nonfasting glucose levels are low may explain the failure of the satiety mechanism. It also indicates that the lesions of the central nervous system produced with the stereotaxic instrument have caused an increase in the rate of lipogenesis. Although several endocrine abnormalities are demonstrable results of the lesions, the cause of this increase in the rate of lipogenesis is not yet clear. It may be an effect on the pancreas or at the level of the tissues themselves.

Studies of carbohydrate metabolism in obese, nondiabetic persons demonstrate the need for distinguishing between the state of active (dynamic) obesity, with its constant tendency toward weight increase, and static obesity, characterized by simple maintenance of overweight. In active obesity, glucose tolerance is very significantly increased. This was shown by comparing variations of blood glucose after freely-selected meals or glucose administration in obese women and controls of the same sex, height, and age. Return to fasting levels consequently occurs sooner in the obese women than in the controls. Similar studies with men suggest that on similar intakes, low Δ-glucose will be obtained sooner after meals than in non-obese men. On the other hand, static obesity seems to be characterized by average glucose or meal tolerance curves higher than normal. It appears, therefore, that a fruitful analogy can be drawn between hypothalamic hyperphagia in experimental animals and simple obesity in man. The analogy between the hereditary obesity-diabetes syndrome of mice and the insulin-resistant diabetes often seen in obese persons is also suggestive.

Detailed reports of this work will be found in two articles on physiology of appetite in obesity in the January and March 1953 issues of the *Journal of Clinical Nutrition*. Also, an extensive article on the hereditary-obesity-diabetes syndrome of mice was published in the November 1952 issue of *Metabolism*.

The above summary was excerpted from a review article by J. Mayer, "The Glucostatic Theory of Regulation of Food Intake and the Problem of Obesity," in the April–June 1952 issue of the *Bulletin of the New England Medical Center* (Vol. 14, p. 43).

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Current Literature

Contributed by Mildred Bonnell and administrative dietetic interns, University of Washington, Seattle; Janette C. Carlsen and Ethel M. Miller, The Johns Hopkins Hospital, Baltimore; Jacqueline Fitzmorris, Dietetic Intern, Veterans Administration Center, Los Angeles; Elizabeth H. Tuft, Wesley Memorial Hospital, Chicago; and the Journal staff

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES

Vol. 225, February, 1953

* Crystalline B_{12} inhalation therapy in pernicious anemia. R. W. Monte, J. W. Rebuck, and M. J. Brennan.—p. 113

Infectious hepatitis in pregnancy. L. G. Roth.—p. 139.

Phosphatase activity as a gauge of acid influence in peptic mucosal damage. J. H. Fodden and R. D. Stewart.—p. 187.

Inhalation Therapy of Vitamin B_{12}. Inhalation as a new method of vitamin B_{12} therapy has been investigated. Three patients with pernicious anemia, two with severe and one with mild symptoms, were studied. Crystalline B_{12} in physiologic saline and in lactose dust was used in the same dosage as in parenteral therapy. This is far less than the amount required for oral therapy. Adequate clinical and hematologic responses were obtained with no evidence of toxicity being detected. Urine tests showed B_{12} activity after inhalation of a far lower dosage than that required for detection of such activity under oral therapy. More investigation is needed to learn the long-term effectiveness of maintenance with these methods.

THE AMERICAN JOURNAL OF NURSING

Vol. 53, March, 1953

* Taking food and fluids through a tube. B. I. Taylor.—p. 303.

Tube Feeding. Naso-esophageal tube feedings are used for "nothing-by-mouth" patients at the Head and Neck Service, Memorial Center for Cancer and Allied Diseases, New York City. Detailed explanation of the method of inserting tubes is given. The nourishment is planned around a basic formula which will provide 3000 calories in 3000 cc. fluid during a 24-hr. period. Preparation of the formula is done in the main diet kitchen and sent to floor pantries once a day. For home use after discharge and for patients who do not tolerate the basic formula, a plan has been worked out which uses foods normally available. These foods are macerated in an electric blender to produce the proper consistency. Prior to discharge, the dietitian instructs patients in the use of the blender. When physicians approve of relaxing the strict feeding regimen, patients are allowed liquids they like, i.e., coffee, chocolate milk, soft drinks, and so on. Even though patients cannot "taste" their food, knowledge that they are getting something they like will aid morale—and if they have disliked a food all their life, they will not enjoy having it poured down a feeding tube. Strangely enough, some patients become attached to their tubes and must be "weaned."

THE AMERICAN JOURNAL OF PSYCHIATRY

Vol. 109, February, 1953

* Long-term clinical and metabolic observations in periodic catatonia. A. G. Gornall, B. Eglitis, A. Miller, A. B. Stokes, and J. G. Dewan.—p. 584.

Metabolic Observations in Catatonia. Detailed metabolic investigations were conducted in three cases of periodic catatonia over a period of two to three years. It was found that a change in basal metabolic rate to a low rate of oxygen utilization correlated with phasic changes. Additionally, one case showed a change in nitrogen excretion and another a relative deficiency in 17-ketosteroid excretion with normal corticoid output. Both were brought under control by treatment with thyroid hormone. The third case showed a relative excess secretion of 17-ketosteroid along with the basal metabolic change. Treatment with cortisone improved the mental state and may prove to be a specific corrective therapy.

AMERICAN JOURNAL OF PUBLIC HEALTH

Vol. 43, February, 1953

* Bacterial cleanability of various types of eating surfaces. G. M. Ridenour and E. H. Armbruster.—p. 138.

* Pretesting health education materials. A. L. Knutson.—p. 193.

* Sanitation problems of the American Indians. H. N. Old.—p. 210.

Sanitation of Eating Utensils. Using tagged P^{32} bacteria, a study was made of the effectiveness of machine dishwashing in removing soils from glass, china, stainless steel, aluminum, and four types of plastic. When new tableware was washed in 160°F. water with 0.25 per cent detergent, soil removal for glass, china, and stainless steel was 97 to 99 per cent. For plastic and aluminum surfaces, soil removal ranged from 69 to 84 per cent, with the different plastics giving different performances. To learn the value of multiple washings, tests using *M. aureus*, the hardest-to-remove bacterium studied, indicated that glass was 99 per cent free of soil in one washing; china took two complete wash cycles; but plastic and aluminum plates did not reach this degree of cleanliness even after five washings. In each case, the surfaces most easily cleaned showed the greater per cent removal in the first wash. Using the same five-wash procedure, worn and scratched plates were similarly tested. Stainless steel, naturally worn china, glass, and artificially worn china were found to have maximum cleanability. When bacteria were mixed with organic soils—milk soil, egg soil, oil soil—the cleanability of the materials was found to be (in comparative rank): steel, glass, china, and plastic. Bacteria mixed with organic soils were found to be removed with much greater ease. Other tests indicated the greater cleanability of glass and china when compared to plastics.

Pretesting Teaching Materials. Health education materials, like all data for mass communication, are useless unless they can be understood and correctly interpreted by the public they are to reach. To estimate their effectiveness, it is well to subject them to pretests on representative groups. Pertinent questioning of these groups often reveals that facts are being badly misconstrued as a result of poor presentation or that they are being incompletely understood. Pretests, however, are no substitute for sound factual information which must be gathered through wide exploratory study of the topic. All explanatory steps must be clearly set forth and non-essentials deleted.

American Indians. It is encouraging to learn that a start has been made in providing sanitation services for the American Indian. Little has been done to educate the scattered Indian population concerning health measures or to raise its standard of living to make healthful existence possible. Surveys by the Branch of Health of the Bureau of Indian Affairs indicate that sanitation services among the Indians must be revised to focus on home and community conditions, not stopping, as they do at present, with boarding schools, hospitals, and agency headquarters. Environmental conditions on the reservations are such that it is difficult to establish a priority schedule, but areas requiring special attention include water supplies, excreta disposal, food sanitation, insects and rodents, and housing.

ANNALS OF INTERNAL MEDICINE

Vol. 38, February, 1953

* Endocrine regulation of the blood sugar. J. W. Conn.—p. 179.

Endocrine Regulation of Blood Sugar. Cellular reactions are brought about by enzymes, which in turn are regulated by hormones. The most critical effects of hormonal influences on carbo

Recommended recipes for feeding baby

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Gunther, M.: Brit. J. Nutrition 6 (No. 2): 215, 1952.

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hydrate metabolism are exerted by the secretions of the pancreas, the anterior pituitary gland, and the adrenal cortices. Epinephrine invokes the adrenal cortical influence by initiating a discharge of ACTH from the pituitary gland. The blood sugar level can influence its own regulators. Hypoglycemia causes a discharge of epinephrine and sets off the eventual cortical response. Hyperinsulinism is a stimulus to increased pancreatic insulogenesis. Despite all the newer knowledge, the factor or factors which initiate the diabetic state in man remains obscure. When diabetes mellitus is permanently established, it appears to be a disease characterized by an insufficiency of insulin activity.

BRITISH MEDICAL JOURNAL

No. 4804, January 31, 1953

* A new long-acting insulin. R. D. Lawrence and W. Oakley.—p. 243.

New Long-Acting Insulin. A preliminary trial of the new Danish lente insulin supports the claim that it exerts a prolonged hypoglycemic action lasting at least 24 hr., which is strong enough to control the blood sugar of patients with moderately severe diabetes throughout the day without causing hypoglycemia during the night. It has not produced either local or general reactions and appears to be no more likely to produce hypoglycemic reactions than the insulin preparations used at present.

FOOD RESEARCH

Vol. 18, January–February, 1953

* Survival of Staphylococci and Salmonellae experimentally inoculated into salad dressing prepared with dried eggs. T. C. Kintner and M. Mangel.—p. 6.
* Flavor deterioration in frozen cake batters. B. Meyer, R. Moore, and R. Buckley.—p. 70.
* Thermal resistance of lactic acid bacteria and yeast in orange juice and concentrate. D. I. Murdock, V. S. Troy, and J. F. Folinazzo.—p. 85.

Survival of Pathogens. Because Salmonellae have been found in dried eggs, it is recommended that dried eggs not be used in scrambled eggs, puddings, or salad dressing since these dishes are not prepared at high enough temperatures to destroy the pathogenic organisms. This study was made to establish conditions of temperature and acidity necessary for preparing a salad dressing that would be safe from either contamination by the dried eggs themselves or by food handlers. A basic formula for cooked salad dressing was developed, followed by four variations in which the level of sugar and vinegar was increased. Contaminated dried egg mixture was added, and the dressing was cooked ½ min. at a temperature from 84° to 86°C. The food poisoning organisms were destroyed at these temperatures. In tests on the effect of the acidity, it was found that not all Salmonellae and Staphylococci were destroyed at the *p*H of the basic formula, but none survived the variation in which sugar and vinegar content was highest. The conclusion is that the *p*H of the basic formula or any palatable variation does not provide a favorable medium for the growth of the organisms, although they are not completely destroyed in cooking.

Flavor in Frozen Cake Batters. Three types of sponge-cake batters—egg-white sponge, whole-egg sponge, and egg-yolk sponge—and two types of shortened mixtures were frozen and tested for flavor after baking. The study was designed to learn whether oxidative deterioration of egg-yolk lipids is primarily responsible for flavor deterioration in cake batters during frozen storage. Part of each batch of batter was baked before freezing and part was frozen in the pan in the batter state. Storage temperatures ranged from 0°F. to −10°F. The sponge cakes were tested at intervals over a period of six months and the shortened cakes over a period of nine months. There was marked peroxide development in whole-egg and egg-yolk sponge cakes frozen in the batter state. Both flavor deterioration and peroxide formation were proportionate to the concentration of egg yolk. The addition of a fat antioxidant or lemon juice to the whole-egg sponge delayed the development of off-flavor during storage. Shortened cakes frozen in the batter developed off-flavor after nine months when hydrogenated vegetable oil was used, but not when butter was used. No off-flavor developed when shortened cakes were baked before freezing, and there was no evidence of peroxide formation in the shortened cakes.

Pasteurization of Juices. Frozen concentrated orange juice, which is not heated when processed and is therefore not bacteriologically sterile, was tested for strains of Leuconostoc, Lactobacilli, and yeast. Several instances of off-flavor spoilage of commercially packed frozen concentrate have occurred as the result of growth of these organisms. The bacteria appear to have greater resistance in the concentrates than in single strength juices, possibly because of the sugar content. These results suggest that pasteurization will be more effective and that less processing will be required for the single strength juices.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

Vol. 151, February 28, 1953

* Cancer and food. Queries and Minor Notes.—p. 782.

Cancer and Food. The question posed is whether improved food and living conditions can be responsible for the rising incidence of cancer. In answer, it is pointed out that there appears to have been no general increase in the incidence of cancer and that no evidence exists that food intakes which may cause a possible increase in sex hormones have any significant effect on the occurrence of the disease.

THE JOURNAL OF BIOLOGICAL CHEMISTRY

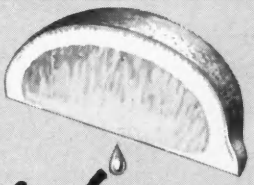
Vol. 200, February, 1953

* Studies on vitamin B_6. I. Biochemical changes in vitamin B_6 deficiency in rats. J. R. Beaton, J. L. Beare, J. M. White, and E. W. McHenry.—p. 715.
* The quantitative relation between insulin and its biological activity. W. C. Stadie, N. Haugaard, and M. Vaughan.—p. 745.
* Effect of a lysine-poor diet on the composition of human plasma proteins. A. A. Albanese.—p. 787.
* Availability of citrovorum factor in natural materials. S. C. Chang.—p. 827.
* The modification of choline deficiency by simultaneous pantothenic acid deficiency. A. F. Morgan and E. M. Lewis.—p. 839.
* The production of fatty livers in rats on threonine- and lysine-deficient diets. S. A. Singal, S. J. Hazan, V. P. Sydenstricker, and J. M. Littlejohn.—p. 867.

Vitamin B_6 Deficiency in Rats. Rats deprived of vitamin B_6 and those in a control group were observed in regard to metabolites in the blood and urine. One basal diet was provided throughout the experiments and contained vitamin-free casein; casein with thiamine, riboflavin, calcium pantothenate, niacin, paraaminobenzoic acid, biotin, and folic acid added; corn oil; sucrose; agar; salt mixture; choline; inositol; and cod liver oil concentrate. In the blood metabolite tests, one group was deprived of dietary pyridoxine and two remaining groups were supplied with the substance. Two clear observations were made, namely, a fall in fasting plasma glutamine and an elevation in the mean blood urea levels. The latter phenomenon appears to be not a simple consequence of renal failure but rather the result of a true metabolic disturbance. Whether these reactions are related cannot be determined from present evidence. It is also to be noted that the pyridoxine-deficient rats exhibited an increased nitrogen excretion with resulting decrease in nitrogen retention.

Quantitative Relation of Insulin. Measurements of biologic activity of a hormone per unit of weight have been made possible by the discovery that insulin is bound in active form by tissues and can be measured per unit of weight of tissue at the same time that the resultant acceleration of metabolic reaction is determined. Measurements of this character on normal and hypophysectomized rats are reported in this paper. It was found that the accelerating action of the bound insulin may vary significantly from one strain of rats to another, and that in the same strain the removal of contrainsulin factors by hypophysectomy enables the insulin to exert its full effect at concentrations of bound insulin which normally have little or no effect. This clearly establishes the site of a contrainsulin activity of the pituitary to be in the muscles.

Effect of Lysine on Plasma Protein. An investigation of the apparent lack of correlation between the nitrogen-balance-maintenance and plasma-protein-regenerative properties of protein foods as it occurs in the human infant is described. A formula of wheat gluten, brewer's yeast, olive oil, dextrimaltose, arrowroot starch, salt mixture, and water was supplemented with ascorbic acid and given in five daily feedings for diet periods of seven days' duration. The average nitrogen retention was determined daily while the plasma proteins were determined weekly. Although the diet caused a marked depression in



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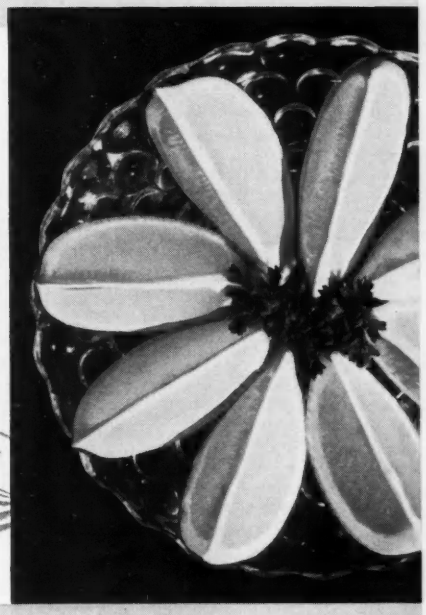

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After weeks and months on a low-sodium diet, many patients experience increasing difficulty in adhering to the rigid discipline required. Bland and lacking in taste appeal, foods prepared without salt become more and more difficult to consume.

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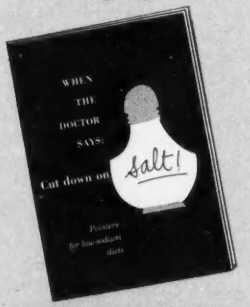

A handy diet booklet for distribution to patients on low-sodium diets is available on request. Please state quantity desired. Write Sunkist, Division M, Terminal Annex, Los Angeles 54, Calif.

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nitrogen retention values, it did not affect the plasma protein levels. When the diet was supplemented stepwise with *l*-lysine, the nitrogen retention of all the infants was restored to normal. Since the plasma protein levels were not altered by the lysine, it must be concluded that measurement of these blood components does not constitute an adequate criterion of lysine intake in the infant.

Citrovorum Factor. Crystalline calcium CF (citrovorum factor), isolated from horse liver, was used as a reference standard in the measurement of both CF and *Streptococcus faecalis R* (SFR) activity. The factors found to be involved in obtaining high CF yields from liver are the concentration of tissue and buffer; the *p*H of autolysis; the depth of autolytic mixture; and the temperature during the incubation period. If the tissue concentrations were lowered, the CF yields were reduced considerably. The highest yields of both CF and SFR activities were obtained when the initial *p*H of the autolytic mixtures was in the region of 6.5 to 7.2, while reduction in the depth of autolytic layer reduced the CF activity to only about 25 per cent of that obtained at the greater depth. Ascorbic acid and carbon dioxide appeared to have beneficial effects on the production of CF activity in a shallow autolytic layer, while nitrogen seemed to be without influence. No destruction of CF activity by prolonged incubation at three temperatures was apparent. The observation that SFR activity precedes the appearance of CF activity suggests that CF is a metabolic product of the SFR-active substance or substances.

Modification of Choline Deficiency. The possible role of choline in the prevention of cholesterol and fat deposition in pantothenic acid-deficient rats was studied along with the effects of simultaneous choline and pantothenic acid deficiencies to attempt to learn if these two conditions might not be identical in effect. For the experiment, three diets were devised: Diet A with vitamin-free casein, sucrose, fat, and salts; Diet B of similar content with a reduction in the amount of casein and an increase in sucrose; Diet C, similar to Diet B with fat increased and sucrose decreased in comparable amount. They were fed to the following groups of rats: normal, choline-deficient, pantothenic acid- and choline-deficient, and pantothenic acid-deficient. The amount of casein in Diet A was sufficient to prevent fatty liver production in all cases, but the liver fat of the pantothenic acid-deficient groups was significantly less than that in the others. The liver fat was found to increase in all groups on Diet B, which was only mildly lipogenic. With the more severe Diet C, much more liver fat was deposited in the choline-deficient group while the doubly deficient and normal rats had similar but much lower fat deposits and the pantothenic acid-deficient animals had significantly less than any of the others. It is concluded that in pantothenic acid-deficient rats, adrenal hormone production is depressed and fat metabolism is seriously deranged with prevention of fat transport to the liver.

Amino Acids and Fatty Livers. Upon investigation, rats fed low-protein diets have been found to have yellowish livers, resulting from an abnormal accumulation of liver fat. Study has indicated that the cause is a suboptimal intake of threonine and that the condition can be prevented by the inclusion of adequate amounts of this amino acid in the diet. The influence of other amino acids on the condition has also been studied, and a relation between growth and the level of liver lipids has been demonstrated. Specific effects of lysine, cobalamin, and folinic acid are noted. The various liver lipid constituents in threonine- or lysine-deficient rats seem to resemble those found for choline-deficient animals and the similarity suggests a possible involvement of these three substances in different parts of a common biochemical mechanism.

THE JOURNAL OF CLINICAL INVESTIGATION

Vol. 32, February, 1953

* Dietary treatment of hypertension. III. The effect of protein on appetite and weight. V. P. Dole, L. K. Dahl, I. L. Schwartz, G. C. Cotzias, J. H. Thaysen, and C. Harris.—p. 185.

Effect of Protein Diet in Hypertension. Reduction of blood pressure following restriction of dietary sodium was found to be independent of tenfold variations in the ration of dietary protein, and unaffected by prior or subsequent reduction of body weight. The data indicate that restriction of dietary sodium may be expected to reduce the systolic and diastolic blood pressures by 12 ± 7.4 per cent. Protein, under the conditions of this study, was seen to determine the appetite and body weight of each patient. It might seem odd that patients lost weight when changed from one adequate diet to another, but the result can be explained on the hypothesis that the reduction of body mass is an adaptation to the reduction of dietary protein. The lack of hunger or weakness during reducing indicated that the diet might be of some use in treating obesity.

THE JOURNAL OF CLINICAL NUTRITION

Vol. 1, January, 1953

* Carbohydrate metabolism in "active" and "static" human obesity. R. Beaudoin, T. B. Van Itallie, and J. Mayer.—p. 91.

* An alternate approach to the problem of obesity. A. W. Pennington.—p. 100.

Semistarvation and nutritional rehabilitation. A qualitative case study, with emphasis on behavior. J. Brožek.—p. 107.

* Clinical vitamin deficiencies in patients with diabetes mellitus. B. Beidleman.—p. 119.

* Effects of B vitamin deficiencies on the leukocyte response to epinephrine and corticotropin (ACTH). B. H. Ershoff and F. D. Parrott.—p. 124.

Psychosomatic aspects of dieting. E. Weiss.—p. 140.

*Food therapy begins with the normal diet. Dietotherapy. C. Robinson.—p. 150.

Carbohydrate Metabolism in Obesity. The carbohydrate tolerance of twelve obese women and normal control subjects of the same sex, height, and age was studied in an attempt to determine whether a correlation could be found between phase of obesity and pattern of glucose tolerance. Deviations from normal in the carbohydrate tolerance of obese individuals, if they exist, are likely to be small. The subjects of this study were regarded as being in the "active" phase of obesity if they had been gaining appreciable amounts at the time of study or if their condition was of relatively recent onset. "Static" obesity was defined as that of long duration with weight gain arrested for long periods. Two types of carbohydrate tolerance study were carried out on each subject, and caloric, protein, carbohydrate, and fat content of self-selected meals were calculated in each case. The six women in the active phase of obesity approximated the food intake of six normal-weight controls, while the women in the static group had a significantly smaller carbohydrate intake than their controls. The group in the category of active obesity displayed markedly increased tolerance both to glucose and to dietary carbohydrate compared with its control group. On the other hand, the obese women in the static phase displayed normal or decreased tolerance to the substances.

Regulation of Appetite. An approach to the problem of obesity may be sought through an understanding of the appetite-regulating mechanism of the body, which causes weight level to change and then to resist change from the new level. Assuming that a homeostatic equilibrium between caloric intake and expenditure is characteristic of a normal level of body weight, treatment of obesity should be directed first toward mobilization of the adipose deposits and the achievement of this equilibrium. The diet should merely supplement body fat in meeting the energy demands of the body, and the *ad libitum* intake of protein and fat, with only carbohydrate restricted, would seem to fulfill the qualifications of such a diet.

Vitamin Deficiencies in Diabetes. Patients with diabetes who are eating a diet low in total calories and fat for reduction of weight and prevention of atherosclerosis, and those whose diabetes has been poorly controlled for variable periods of time are subject to vitamin deficiencies. Vitamin A deficiency has been manifested in the first group, while insufficient intake of the B-complex vitamins is found in both groups. Vitamin B_{12} therapy has produced favorable results in treating diabetic neuropathy which often accompanies poorly controlled diabetes.

Diet Therapy and Normal Nutrition. This is the first of a series of articles by Corinne Robinson, Lecturer in Nutrition at Temple University, Philadelphia, and Chairman of the Diet Therapy Section of The American Dietetic Association. Food therapy begins with the normal diet, she says, and there is a psychologic advantage in relating all diets to the normal pattern with the goal of returning to normal as soon as possible. In cases requiring modified

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diets for long periods or for a lifetime, emphasis can be placed on the similarities to normal diet rather than upon deviations therefrom. The rigid "special" diet of years ago has no place in modern food therapy. Of course, the "normal" diet cannot be a simple rule which applies to every individual since no two persons have absolutely identical food requirements, and such factors as cost and availability of foods and social and emotional patterns, must be considered. It is emphasized that the basic diet is planned in terms of food classes rather than from specific foods, and from this foundation the physician can calculate the adequacy of the therapeutic diet to be prescribed.

THE JOURNAL OF NUTRITION

Vol. 49, January, 1953

* Experimental megaloblastic anemia and scurvy in the monkey. V. Nature of the relation of ascorbic acid deficiency to the metabolism of folic acid compounds. C. D. May, A. Hamilton, and C. T. Stewart.—p. 121.

Folic Acid in Scurvy. As a result of a systematic study of the effect of ascorbic acid deficiency on the metabolism of folic acid compounds in monkeys, it was concluded that: (a) The conversion of folic acid to folinic acid *in vivo* may be less efficient in scurvy, but ascorbic acid is not necessary for this conversion to take place. (b) All other phases of the metabolism of folic acid compounds tested were found to proceed normally in scurvy; ascorbic acid is not required. (c) Ascorbic acid deficiency was not accompanied by a marked deficiency of folic acid compounds until signs of scurvy had become well advanced. (d) The severe deficiency of folic acid compounds which occurred regularly as a complication of scurvy in monkeys fed milk diets was probably due to non-specific factors. The net effect of scurvy was to cause increased requirements of folic acid compounds which could not be met by the supply of these compounds obtainable from the milk diet and the feces.

THE MILBANK MEMORIAL FUND QUARTERLY

Vol. 31, January, 1953

* Characteristics of diabetics as revealed in a general morbidity study. K. Simon.—p. 5.

Diabetes Control. This study of diabetic persons in a sample population of the Eastern Health District of Baltimore was carried on from June 1938 to May 1943. Cases of the disease were classified as severe, intermediate, mild, and of unknown type, and the method of control was observed. Forty-five persons utilized both dietetic control and insulin; thirty were on a diet only, and five reported that they did not take insulin or adhere to a dietary regimen. In seven cases, the method of control was unknown. In observing the effects of dietary control alone, it was found that many diabetics were unable to keep to a proper diet, but that those who really did so were able to control their condition effectively.

NURSING OUTLOOK

Vol. 1, February, 1953

* Teaching students to teach. E. J. Wilson, M. E. Gilpatrick, F. L. Boyle, and S. G. Campbell.—p. 79

Nurses Teach. Student nurses in Cornell University-New York Hospital School of Nursing are learning that maternity care includes teaching the mother what she can do for herself and her baby as well as "doing to" and "doing for" the mother. The courses are designed to abet the nurse in her role as teacher and prepare her for individual work with patients, members of families, or members of the auxiliary nursing staff. Establishing good rapport with mothers is of primary importance, and dietary intake sheets and demonstration materials have been found useful in this. The obstetric program is related to the maternity cycle and is divided into the antepartal, intrapartal, postpartal, and neonatal aspects. During the latter period, the mother is taught to understand the infant's feeding requirements and to interpret the problems of lactation. In her senior year, in the outpatient department, the student nurse assists in instructing expectant mothers about diet.

PUBLIC HEALTH REPORTS

Vol. 68, February, 1953

* Effect of fluoridated public water supplies on dental caries prevalence—seventh year of Grand Rapids-Muskegon study. F. A. Arnold, H. T. Dean, and J. W. Knutson.—p. 141.

Fluoridated Public Water Supplies. The results after seven years of the Grand Rapids-Muskegon study are described. The 1951 results on continuous resident children after six and one-half years of fluoridation of the Grand Rapids water supply indicate there has been a reduction in dental caries rates in permanent teeth of Grand Rapids children ranging from 66.6 per cent in six-year-old children to 18.1 per cent in the sixteen-year age group. Similar results have been obtained regarding the deciduous teeth. In Muskegon, where the water supply remained "fluoride free," similar reductions have not been observed. The change in dental caries rates in Grand Rapids was also reflected in a reduction in the number of missing teeth. A comparison of the 1951 caries rates in Grand Rapids with those of Aurora, Illinois, shows that insofar as can be determined to date, the use of a fluoridated water gives the same beneficial effects as does the use of a natural fluoride water of similar concentration.

SCIENCE

Vol. 117, February 13, 1953

* The *in vivo* conversion of glycine to serine. G. L. Nardi.—p. 160.

Vol. 117, February 27, 1953

* Protection against alloxan diabetes by mannose and fructose. G. Bhattacharya.—p. 230.

Conversion of Glycine. Nine mice were divided into three groups, the first supplied with a normal diet, the second given only a saturated solution of glucose in water, and the third allowed only water, all for 72 hr. The purpose of the study was to show that glycine is converted to serine in the liver of the intact animal as well as *in vitro*. Each mouse was injected with radioglycine, and one mouse from each group was sacrificed 2, 4, and 6 hr. later. Measurements of the glucose-fed animal produced a moderate amount of radioactive serine. After 4 hr. the glucose-fed animal had produced a little more radioserine, while in the normal-fed animal radioglycine and radioserine were present in approximately equal concentrations. Only after 6 hr. did the water-fed animals convert glycine to serine. The results indicate that the intact liver of mice handles parenterally administered glycine as it does *in vitro*.

Prevention of Alloxan Diabetes. It was reported previously that glucose, given prior to the injection of diabetogenic doses of alloxan, prevented diabetes in rats. Similar experiments have been done with mannose, fructose, and galactose. Rats fasted overnight were given diabetogenic doses (40 mg. per kilogram) of alloxan intravenously at different intervals after intravenous administration of varying doses of the above sugars. Mannose and fructose, in that order, were found to follow glucose in effectively preventing diabetes. Galactose had no such preventive action.

SOUTHERN MEDICAL JOURNAL

Vol. 46, February, 1953

* Iron metabolism in anemias in pregnancy. H. G. Hamilton, R. S. Higgins, and W. S. Alsop.—p. 117.

Anemias in Pregnancy. In considering unsuccessful treatments of anemias in pregnancy, one is struck by the fact that therapy should have been started earlier in the pregnancy. If the problem is one of supplying additional iron for hemoglobin synthesis and the patient is going to have an iron deficit of 700 mg. (500 mg. to the baby, 100 mg. in the placenta, and 100 mg. in blood loss), then it should obviously be supplied prior to the deficit. Since supplementary oral iron can be absorbed at a maximum rate of only 5 mg. per day, and since the deficit at the end of pregnancy is about 700 mg., it is obvious that oral iron therapy should be instituted at least 150 days before the anticipated delivery. In lactating women, iron therapy should be continued into the puerperium. In the event of failure to achieve or maintain satisfactory hemoglobin levels on oral iron therapy alone, 10 per cent of women will have a satisfactory hemopoietic response if hydrochloric acid therapy is added to the oral iron. About 6 per cent of patients will fail to absorb iron when it is orally administered with or without hydrochloric acid. These patients can be given intravenous iron therapy. Folic acid therapy is useful only in the megaloblastic anemias in pregnancy.

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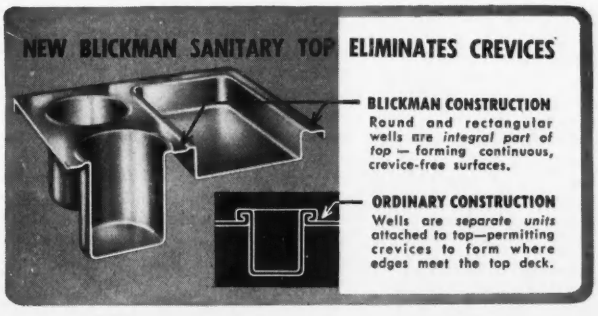
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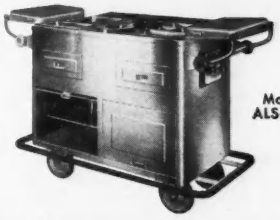

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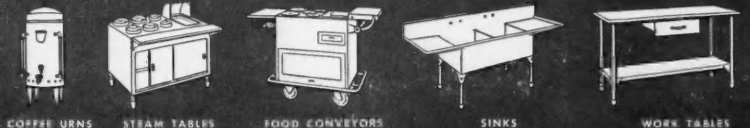

See the Catalog of Blickman-Built Food Conveyors in the Hospital Purchasing File

ADULT LEADERSHIP

Vol. 1, March, 1953

* Why group discussion? I. S. Hill.—p. 3.
* Improving your leadership in discussion groups (tool kit). T. Gordon.—p. 13.

Why Group Discussion? Adults seem to prefer and try to foster the discussion method of learning rather than the lecture or "quiz" session used in schools. Reasons for this preference might include: true motivation to learn, rather than forced learning; interest in discovering many viewpoints; a need for re-examining and for changing attitudes; stimulation to overcome apathy; need for a group to jolt the learner out of mental laziness; the need for human companionship on more than a superficial level; need to think for oneself; and a desire for skill in human relations. Leaders should remember that the group discussion can have values related to emotional gratification, self-esteem, and personality growth of the members.

Leadership Skills. "Leaders are born, not made" is an old adage which today is giving way to the concept that leadership can be learned. More and more people seem to want to become discussion leaders, and their role has recently acquired the legitimate status of a problem for scientific study. Techniques help, of course, but only if they implement the leader's personality and temperament. A self-test for leaders to use in examining their attitudes, and an outline titled "How Does a Leader Prepare to Work with His Group?" are presented. Tools for speeding membership participation in the first meeting, rules for "setting the emotional climate," and hints on facilitating communication are also included. Emphasis is placed on the leader as a resource for the group and as a member of the group. Aids suggested for improving leadership skills are: the tape recorder for self-evaluation; use of "observers" during the meeting; and self-evaluation questions for the leader.

AMERICAN SCHOOL FOOD SERVICE NEWS

Vol. 7, January, 1953

* Japanese make remarkable progress. H. Uemura.—p. 1.
* Integrating health education with the school lunch program. O. E. Byrd.—p. 7.
* A consultant views the school lunch program. R. Flambert.—p. 13.

School Feeding in Japan. The first regular school lunch program in Japan was established by the government in 1932 as a result of the world-wide economic depression. The program ceased to function during World War II but by April 1952, complete lunches were being served in all schools. Children receive more than one-third of their day's requirements from the school lunch with special attention being given to providing adequate protein, calcium, and riboflavin because they are lacking in Japanese food. The lunch, which consists of bread, milk, and a side dish, usually costs about 13 yen (3.6 cents) per child. The effect of the school lunch program can be seen in the better physical development of the children, the increased percentage of school attendance, and the training in good food habits and healthful living.

Health Education and the School Lunch. The learning experience of the classroom must be brought into the lunchroom, or those of the latter must be taken into the classroom. Five ideas for such integration are given.

Consultant Views the School Lunch. Handicaps to business and educational success of school cafeterias are numerous, some of which are: (a) lack of clearly defined lines of authority; (b) not consulting people with practical experience in cafeterias when planning new cafeterias or when remodeling old layouts; (c) lack of agreement as to policy regarding faculty meal prices, portions, and menus; and (d) not setting up operational checklists by supervisors.

COLLEGE AND UNIVERSITY BUSINESS

Vol. 14, February, 1953

* Tools for control of food costs. A. B. Atkinson.—p. 50.
* Accounting system is necessary tool for dining service control. K. M. Hertzfeld.—p. 51.

Food Cost Control. In this, the last of a series of articles, the author illustrates three control forms used at Teachers College, Columbia University. The first is a daily food cost report which serves as the basis for end-of-the-month tallies. The second is a form of inventory to show food issued for a "pushcart" service operated outdoors during summer months. This form provides space for recording issues, sales, price, and returns. The last form is used by the soda fountain manager to show food obtained from the main kitchen and that which is delivered directly by the purveyor.

Accounting System Is Necessary. Complete and current financial reports are essential in dining service administration, both for the dining service director and the over-all financial administration of an institution. The dietary accounting system at the University of Rochester, New York, is described, and three accounting forms are shown. Since the central accounting system of the University did not provide weekly data and special information about the dining room operation which were wanted, a separate system of financial control for dietary operations was devised. The basis of this system is a "Weekly Dining Hall Report" which is illustrated and discussed. Information from this form is used to make a "Weekly Expense Breakdown" (form also shown). The final form is a "Weekly Report of Dining Halls," which is essentially a profit and loss statement.

FOOD ENGINEERING

Vol. 25, February, 1953

* Facts about cold sterilization. Part I. W. M. Urbain.—p. 45.
* New unit heats food cargo via engine-cooling system.—p. 64.
* Quadruples output of pie fillings. R. Prince.—p. 68.
* Aseptic canning improves corn.—p. 74.
* Better dry soups by comminuting. A. C. Rauch.—p. 97.

Cold Sterilization. Cold sterilization of foods is possible by electrons and X-ray. When the electron hits the nucleus of the bacterium, it imparts some of its energy, a disruption of nuclear function occurs, and death results. A hit in an area less vital may cause only interference in cell function—such as reproductive capacity destroyed—or a diffusion action may extend the electron beyond its traversed path and extend the effect of the electron.

Hot Food Transportation. A coolant mixture of 50 per cent water and 50 per cent antifreeze circulated by means of the regular water pump of a truck engine through a closed circuit of finned copper tubes on the floor of the truck body may be the answer to hot food transportation.

Pies in a Matter of Seconds. Custard-type pie fillings are continuously cooked, cooled, and filled into pastry shells at a rate of 1200 lb. per hour by means of a mixer-heat-exchanger assembly line of tanks, cylinders, and tubes. Two workers are able to produce four times as much filling as formerly produced by three men, and handling operations are abolished.

Sterilization in Cylinders. Commercial containers of cream-style corn are inferior in flavor and texture when canned by the conventional retort method because the added time necessary to sterilize the center of the can tends to caramelize the outer layers. The new method of canning by using a series of rotating cylinders for flash sterilization prior to filling and sealing makes possible commercial canning without sacrifice of quality.

Better Dry Soups by Comminuting. Ideal instant dry soups should (a) be capable of prompt rehydration with water heated to 100° to 212°F. and very little stirring and (b) possess flavor, color, aroma, and texture similar to soups prepared from fresh ingredients. These, briefly, were the specifications the Quartermaster Corps considered when an improved dehydrated pea soup mix was to be added to operation rations. A third quality desired was ability of the packaged product to "hold up" for six months at 100°F. Comminuting—i.e., a special technique of particle-size reduction—teamed with a good cooking and drying procedure, was the solution. The process of preparing this soup is described. It is anticipated that the mix, which also may be adapted to other legume products, will be useful to nonmilitary food service as well.

FORECAST FOR HOME ECONOMISTS

Vol. 69, March, 1953

* At your fingertips. B. E. Layman.—p. 21.

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HOSPITAL MANAGEMENT

Vol. 75, February, 1953

* How to manage your food costs. A. Moore.—p. 82.

Food Cost Management. From menu planning to garbage disposal, food cost control is an integral part of every phase of food production, and every employee should feel a personal responsibility for the proper care and utilization of food. The food service operation can be broken down into five major work areas: menu planning, purchasing, storage, preparation, and service. Major principles of each as related to food cost control are discussed. Department of Agriculture recommendations for storage temperatures of different kinds of food are given, and the importance of preventing food waste through planned production and use of leftovers is stressed.

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HOSPITALS

Vol. 27, March, 1953

* Opinion survey alerts dietitians to patient's likes, dislikes. E. C. Downes.—p. 105.

Patients' Opinions. Dietary operations were subjected to a patients' survey at The Mountainside Hospital, Montclair, New Jersey. Patients were asked five questions: "Were your meals good, fair, or poor?" "Were your meals hot enough?" "Was your coffee hot enough?" "Was the food seasoned properly?" and "Did the dietitian visit you frequently enough to help you select your meals?" Most patients classified meals as "good," "hot enough," "coffee hot enough," and "seasoned properly." Most were satisfied with the frequency of the dietitian's visits. Personnel have also been queried to learn their opinions of food served in the cafeteria. Changes have been made both in patient service and the cafeteria service to take advantage of suggestions made on these surveys.

HOTEL MANAGEMENT

Vol. 63, February, 1953

* So you're going on television. M. O. Waugh.—p. 46.
* 20 ways to successful menu planning. M. C. Warfel.—p. 52.
* What do you know about kitchen layout? G. D. Henderson.—p. 57.

Television Appearance. Here are hints on what to do and what to avoid to help you make the most of your TV opportunity. Avoid extreme contrasts in clothes; soft shades do more for you than harsher combinations of color. For ladies—no gloves, handbags, or veils and only the type of hat which will not hide the face. Let your motions be deliberate, do not watch the cameraman or any of the mechanisms—it is their job to follow you. Your audience is the camera—look interested and keep your body turned toward it. Address the camera as "you." Speak up and out, don't mumble words nor slur them by speaking too rapidly. You will most likely have a helper, one who interviews you or a person outside the camera range who holds the script.

Menu Planning. In this article are discussed twenty menu considerations which lead to successful operations. They include the use of leftovers and stock on hand, capacity of the staff, plant facilities, the relationship between cost and price, the type of patronage, the location of the restaurant, and the appeals of food. A down-to-earth discussion of each point is given.

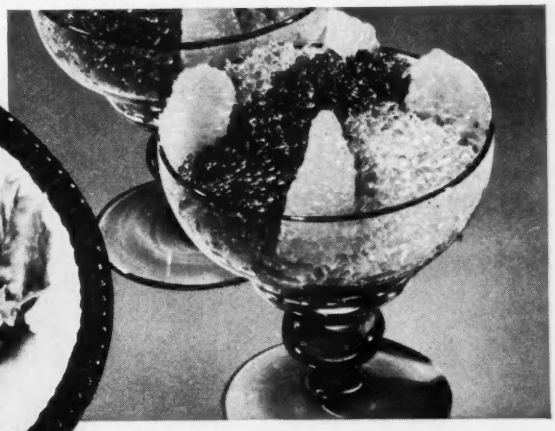
Kitchen Layout. Two hotel kitchen layouts are compared, one distorted to show eleven features which are commonly wrong, the second one a corrected version. One may test his knowledge concerning the right and wrong for kitchen planning. Each error and correction is discussed.

THE HOTEL MONTHLY

Vol. 61, March, 1953

* New, fresh dishes are good for your customers and profitable for you!—p. 47.

NOW A Different Dessert and Salad FOR DIABETICS EVERY DAY!



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Newness Aids Menu Appeal. Lenten menus—as well as those during the rest of the year—need new, fresh dishes to avoid "seasonal slumps." A large Chicago hotel recently made a drastic change in menu design and contents, after analysis of the old menu showed that many items were seldom ordered. The new menu form is shown as it was used on Ash Wednesday. Suggestions are given for sales appeals which will boost appetites; i.e., displays of food, descriptive adjectives on the menu, and unusual ways of serving familiar dishes. Suggestions for techniques and methods of preparing and serving cheese, eggs, and seafood are given.

INSTITUTIONS MAGAZINE

Vol. 32, February, 1953

- Best personnel plan: promote from within. J. Stokes.—p. 5.
- Study management problems. Suggest yardstick for supervisors of food service.—p. 81.
- Study of bacterial growth aids food handling technique.—p. 83.
- Apply industry's system to storage for institutions.—p. 83.
- Careful planning in remodeling results in smooth flow of food.—p. 86.
- T-shaped layout segregates kitchen sections to cut cross-traffic, save steps.—p. 87.
- Survey shows many uses for leftover foods.—p. 89.
- Pre-planning aids placement of equipment.—p. 90.

Consultant cites ten obstacles to successful feeding programs. R. Flambert.—p. 124.

NARY A CHIP...to mar it's beauty!

Takes the high cost out of Breakage Replacements..

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Now you can have beautiful dinnerware—finest quality for quantity food service—and cut replacement expense as much as 80%. Arrowhead is molded of the durable new melamine plastic, actually hard to chip, crack or break, in the popular wide rim pattern that shows off food to best advantage.

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Training Executives. Institutions don't "fall to pieces" when death or disability strikes key personnel if a plan of promotion-from-within has been used. Trained and competent executives are not available at a moment's notice. When a suitable person is finally found, months may elapse before he is thoroughly acquainted with his job and the institution's policies — or before he proves to be the wrong man for the job. Investment in an executive is, of course, a considerable item in an institution's budget. Steps that should be taken in providing "understudies" to administrative personnel are: (a) analyzing the organization; (b) evaluating present executive positions; (c) choosing qualified junior executives; and (d) training the executive and supervisory staff. This last step, to be successful, should include definition of training objectives based on the institution's actual needs, formulation of training methods and procedures, and designation of the responsibility for training executives.

Evaluating Food Supervisors. Three criteria for measuring food service supervisors' ability are given: "Does the individual plan the work of his unit—and is this planning done with consideration for the rest of the organization?" "Can he organize and assemble all the necessary resources into a logical working order?" and "Does the food supervisor adequately control the food preparation as well as the personnel?" Traits of a good supervisor are listed, with particular emphasis on the teaching phase of the job.

Bacteriologic Study. Bacteriologic aspects of chicken salad were recently studied at The Ohio State University in order to understand ways to handle food to prevent growth of contaminating organisms. Conclusions are summarized as follows: (a) chicken salad furnishes an excellent medium for the growth of Staphylococci or food poisoning bacteria; (b) it should be kept cold and in small quantities so that conditions for bacterial growth can be more easily controlled; (c) refrigeration should be immediate and should continue, if possible, throughout the food service; (d) the amount of contaminate is less important than the handling technique. In all instances, when the salad was kept cold, growth was minimal, but when it was warm, growth was good. These studies emphasize the importance of adequate refrigeration for a product such as chicken salad, which is handled after cooking.

Storage Principles. Principles of industrial storage, material control, and handling, long used by industry, can be adapted successfully to institutional use. Proper physical layout and location of storage facilities, storing items in standard units rather than in units which "just happen" to be available, and studying the quantities in which staples are issued are important factors in controlling supplies.

Remodeling Aids Food Service. Planning a compact, efficient, and sanitary kitchen at St. Joseph's Hospital, Rice Lake, Wisconsin, resulted in a

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So see your Garland food service equipment dealer now. Let him show you why *Garland-built is better built*—why you'll be better off with gas—the ideal fuel. Plan to buy—during 'Old Range Replacement Month." ***All Garland units can be furnished in Stainless Steel and can be equipped for use with natural, manufactured or L-P gas.***

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smooth flow of hot meals to patients. The layout of the kitchen in this seventy-bed hospital is shown, and photographs of the new kitchen equipment accompany the article.

Multi-Level Food Service. Two dining rooms at Skidmore College occupy the first and second floors of Fathers' Hall. Both are serviced by a central kitchen and serving pantry. Cafeteria-style service is used for breakfast, and family-style for lunch and dinner. Twenty-four full-time workers serve about 15,000 meals monthly in this food operation. Photographs and a floor plan are shown.

Leftovers. A survey at The Ohio State University was made of forty food service units of various types to determine what foods are left over, which ones are utilized, and how, and how long they were held before reserving. It was found that the attempt to serve only high-quality products was related directly to the amount of food discarded. Sizable profits lost through waste of leftover food indicated the need for careful study of the problem with a view to improved, more acceptable use of leftover foods.

Pre-Planning for Efficiency. When the University School's lunchroom serving counter at The Ohio State University was remodeled, functions of each unit of work were related to the other units of work in the total area. Improvements and their results are described individually.

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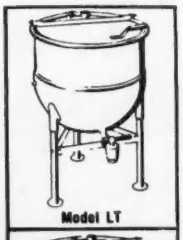
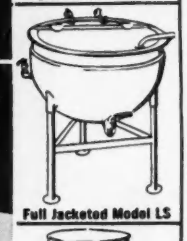

Model LT

⅔ Jacketed Model L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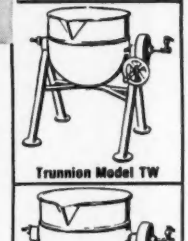
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PIONEERS IN STAINLESS STEEL

THE MODERN HOSPITAL

Vol. 80, March, 1953

* Put training principles to practical use. R. L. Lodde.—p. 118.

Training Techniques. Training is costly, but high operating costs and lowered food quality are costlier and will ensue if employees are improperly or inadequately trained. "How to begin," often a major problem for the young dietitian, can be solved by soliciting the help of present employees who often can supply much information about old and new ways of performing their jobs. Employees can also prepare data such as job breakdowns and work schedules. Problems of training programs, preliminary steps, and methods are discussed. Illustrative material includes a sample job description, a work schedule, a job breakdown, a film guide, and an outline for an information booklet for new employees.

PERSONNEL JOURNAL

Vol. 31, February, 1953

* 21 top executives learn to read 216% faster. C. J. Mullins and H. W. Mowry.—p. 336.

Rapid-Reading Program. Top executives learned to save time and money by faster reading of material which goes over their desks, in a course conducted by the University of Houston Reading Clinic. The 43-hr. program, which lasted seventeen weeks, consisted of lectures, practice periods, and showing of the Harvard Reading Films. The course was planned to accommodate the executives' personal schedules. Lectures were given once a week to present fundamentals of efficient reading. Twice-a-week supervised practice periods were held to convert the fundamentals into effective habits. Progress was measured weekly during the course. Eighteen of the twenty-one executives who enrolled in the program reached at least 100 per cent improvement; the other three had missed more than half of the course.

PRACTICAL HOME ECONOMICS

Vol. 31, March, 1953

* Is your "well-balanced" diet nutritious? I. Wolf and M. W. Lamb.—p. 31.
* Fashioning links in the chain of good nutrition. M. C. Cassady.—p. 35.

Well-Balanced Diet? Scientific dietary planning does not automatically result in good nutrition, because foods vary in nutritive value or lose nutrients before consumption. Although the dietitian is concerned with variety or strain, growing conditions, degree of maturity, and part of the plant or animal used, her greatest responsibility is with the method of handling. The ways in which nutrients are destroyed during handling —through physical treatment of food, by dissolving and being discarded, and through chemical decomposition—are discussed, and methods of minimizing these losses are pointed out.

Teaching Teen-Agers Nutrition. A survey in Toledo of children in grades two, four, six, and eight showed that

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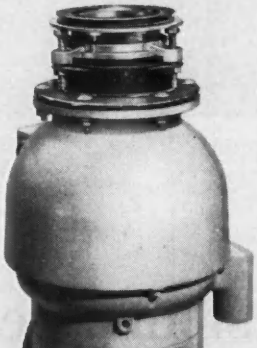

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the diets in many homes were poor and that food habits deteriorated as a child entered junior high school. To improve the children's nutrition, a nutrition education program has been incorporated into the curricula for some of the grades and for freshmen in high school. The program, which has reached some 5000 high school students since it was started in 1951, is outlined.

RESTAURANT MANAGEMENT

Vol. 72, February, 1953

* How to prepare steamed puddings. M. Umbehocker and A. Ziegler.—p. 56.
* Six ways in which to prevent commonplace accidents. D. Markstein.—p. 62.

Steamed Puddings. The authors of this article, co-proprietors of a tearoom, have found that the winter months bring a heavy demand for steamed puddings. This has encouraged them to develop new recipes for puddings and sauces, five of which, in addition to the basic pudding recipe, are given together with recipes for five sauces. Five sample menus in which steamed puddings are suitable are listed.

Avoiding Accidents. "Wheelhead Willie," a puppet created and photographed by the author, graphically shows six safety rules to prevent commonplace restaurant mishaps. They are: careful lifting of heavy objects; checking electric connections; prompt and cautious cleaning up of glass and china breakage; secure tacking-down of wiring; constant sweeping up of rubbish and slippery grease spots; and tacking-down or removal of loose nails and removal of splinters.

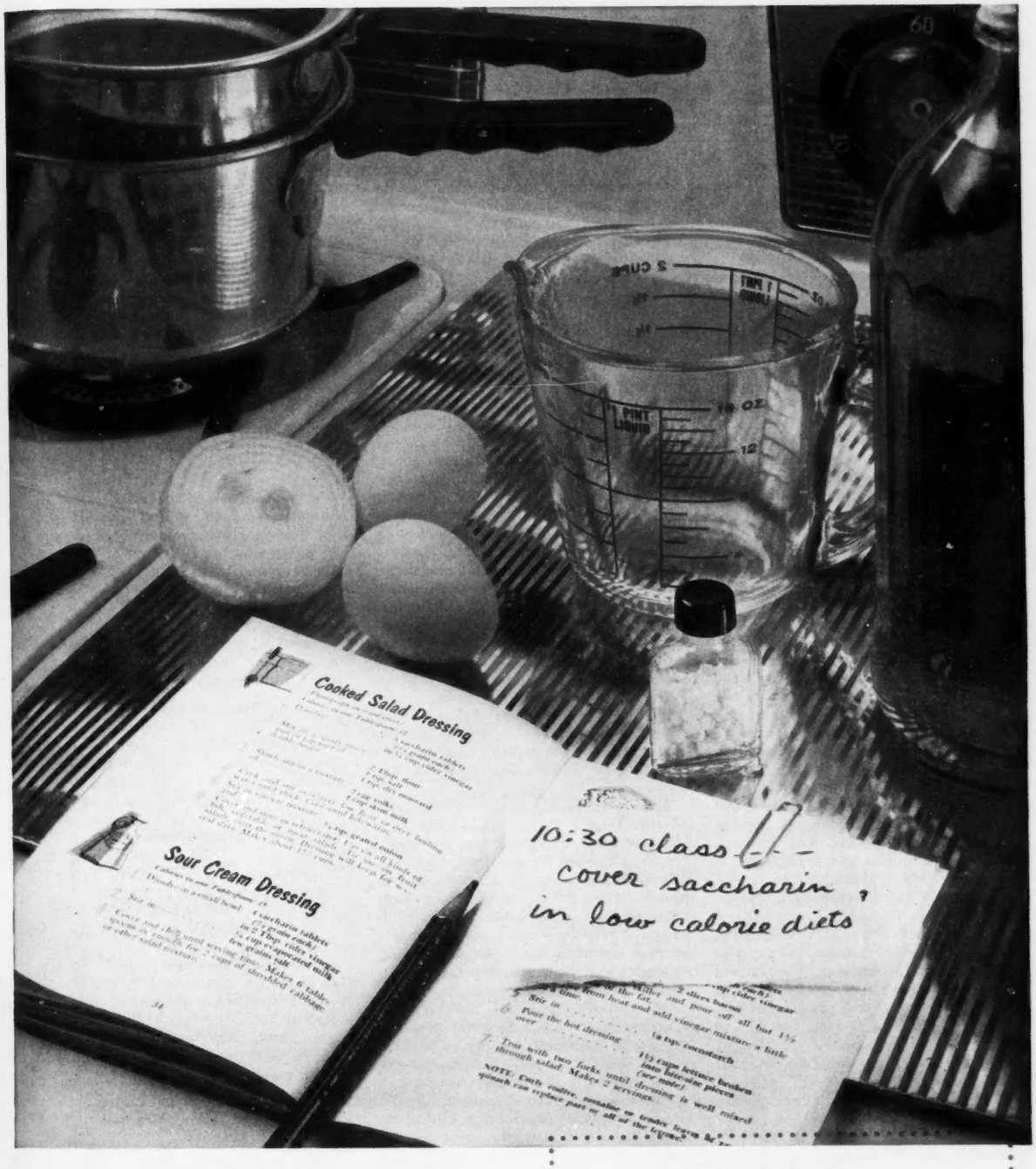
WHAT'S NEW IN HOME ECONOMICS

Vol. 17, March, 1953

* Rice—a real menu help.—p. 28.
* United Nations food unit—Part Two. A. Small and L. Norfleet.—p. 32.

Rice. White milled, treated, converted, brown, and wild rice are defined and described in this article. The proper method of cooking rice is given, as well as that of preparing "fluffy" rice from regular and packaged precooked rice. Ways to use rice are suggested, as well as the idea that rice lends itself to an inventive imagination and creative experimentation with flavor and texture combinations.

UN Food Class. As part of a coordinated study of the United Nations, ninth grade students in a New York City school decided to serve an intertional buffet. The menu included: Paraguayan zoo topsoy, African trepak-ganaid, and Norwegian mandelstanger. Home economics students worked out recipes adjusted for quantity service. The project was carried through further in classes of social studies (geography), English, arithmetic (calculating food needed), science (nutrition and food preparation), clothing (typical costumes), art, and typing (of reports). The unit broadened the students' horizons, making them aware of the bonds, such as food, that can lead to better international understanding.



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Here's a handy, compact reference for your cookbook library. Booklet contains over seventy recipes using saccharin—each with caloric figures. Recipes have been developed by graduate dietitians and home-tested. You'll find recipes for cakes, cookies, puddings, frozen desserts, beverages, jams and many other tempting dishes. And remember, saccharin is the *proved*, low-cost, non-nutritive sweetener.

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News Notes

Trips around L. A. Under consideration are tours of the Los Angeles area which may occupy free days, afternoons, or evenings during the 36th Annual Meeting of The American Dietetic Association. A night trip of the city, available either before or after the convention, will include Olvera Street (the oldest street in the city), a tour of Mexican shops, Chinatown, and Griffith Observatory, from which the panoramas may be seen of the city at night and of the heavens through a powerful telescope.

An afternoon tour of West Los Angeles will acquaint visitors with the renowned Farmer's Market, where one can shop for groceries from all parts of the United States, gifts, and clothing, and dine in stalls or booths. CBS Television City, the first plant designed exclusively for television, is next door. Other sights of the trip will be the beautiful new campus of UCLA's medical school, which is only 5 mi. from the ocean; the VA Center with its extensive hospital facilities; Kabat-Kaiser Foundation, an institution devoted to rehabilitating victims of poliomyelitis; and a drive through the residential area of the Pacific Palisades.

Other trips within the city are being planned for dietitians interested in seeing the hospitals and educational institutions of the city.

Outside the city, an all-day excursion is being planned to a large orange grove and processing plant, which will include the viewing of packing and freezing operations as well as the orange groves themselves, which should be in bloom at the time of the convention. Arrangements will be made for the group to have lunch at Padua Hills, a Mexican restaurant and theater in the foothills of the San Bernardino Mountains. The waiters and waitresses are Mexican students who entertain while serving. Spanish food, music, and plays of Old California are features of this restaurant.

A special 2-hr. trip may be scheduled to Pasadena to the California Institute of Technology, where Dr. Henry Borsook has conducted his extensive investigations in protein chemistry. In nearby San Marino is the world-famed Huntington Library and Art Gallery where the original "Blue Boy" hangs.

Deep-sea fishing for conventioneers on a 4-hr. trip by chartered boat may also be available.

Longer excursions being planned for the few days prior to and/or following the Annual A.D.A. Meeting will be:

San Diego and Old Mexico: a two-day weekend trip along the Southern California coast to include Long Beach, the artists' colony at Laguna, San Clemente, Del Mar, San Diego, and Tijuana, in Mexico. The return route will be by way of Coronado and La Jolla.

Catalina Island: This will be an all-day trip to the picturesque island 22 mi. from the Los Angeles Harbor. The island features glass-bottom boats, a bird park, and other natural beauties, such as the crescent-shaped Avalon Bay.

San Juan Capistrano and La Jolla: Tentative plans are being made for this trip which will include a drive through the orange groves to San Juan Capistrano, one of the most picturesque missions in the world, where the swallows' annual appearance and departure mark the calendar. Following on down the coast, the tourist dietitian will come to La Jolla, where the Scripps Metabolic Clinic is located, overlooking the sea.

For those coming to Los Angeles from the north, the Old Spanish Days in Santa Barbara—August 19 to 22—will be worth planning to see. At this time in Santa Barbara, which is 125 mi. north of Los Angeles, the streets and plazas are a riot of color with costumed señoritas, señoras, and caballeros in Spanish garb; barefooted peons; flower girls; and strolling musicians and singers. At sunset, the bells of the Old Mission call the people together for the traditional fiesta by the Franciscan padres.

More detailed information about these and other projected trips will be included in a mailing to A.D.A. members scheduled for early in June.

Eat to Live. *Eat to Live* is the title of the Wheat Flour Institute's new fifty-two-page handbook on nutrition. Prepared for use by students, teachers, health educators, and other professional people, it effectively shows how good nutrition can add to the pleasures of living. Nutrition theory and scientific findings are made useful to the layman through excellent translation into understandable, readable language.

Attractively designed and printed with pertinent color illustrations, the booklet is organized simply. The first section deals with general principles of nutrition and food selection—variety in foods, obesity, effect of maternal nutrition on pregnancy and infants, and so on. In the second section, the principal nutrients are described, their functions are explained, and rich sources of each are listed. In the last part of the publication the problem of meal planning for good nutrition is covered. The Recommended Dietary Allowances are reprinted, the Basic 7 are illustrated and foods in each group listed, meal planning based on these groups is explained, advice on food shopping is given, cooking and serving tips are outlined, and one week's sample menus are presented. At the end of the booklet, seven pages are devoted to a table of food composition listing foods in household measures, together with their nutrient content in terms of grams, milligrams, and International Units. These figures have been adapted from Agriculture Handbook No. 8 of the U.S.D.A.

This booklet was planned for use in teaching both adults and children in the elementary grades. Because the "commercial slant" has been omitted in the text, it should find wide usefulness by various groups. It is available to professional workers free, and a limited number are also available free for classroom reference use, while individual copies for students and homemakers may be bought for 25 cents by writing to the Wheat Flour Institute, 309 West Jackson Boulevard, Chicago 6.

New Army Consultant. Alta B. Atkinson, Manager of Food Service and Instructor in Home Economics, Teachers College, Columbia University, has been named civilian consultant to the Dietitian Section, Women's Medical Specialist Corps of the Army.

Plentiful Foods. The U.S.D.A. lists the following foods as expected to be plentiful during May:

Fruits and vegetables

Cabbage
Grapefruit, fresh and processed
Lettuce
Onions
Oranges, fresh and processed
Potatoes
Raisins
Tomato juice
Tomatoes, fresh

Protein foods

Beef
Fish, frozen
Milk and other dairy products
Turkeys

Other foods

Edible fats and oils

National Conference on World Health. The National Conference on World Health, organized by the National Citizens Committee for the World Health Organization, was held in Washington in April. The program included the following speeches:

"The Economic and Social Importance of Health"—Dr. Abel Wolman, Johns Hopkins University

"How Does the World Health Organization Operate?"—Dr. H. van Zile Hyde, Director, International Health Division, U. S. Public Health Service

"How Does WHO Work Together with Other International Organizations?"—Dr. Martha M. Elliott, Chief, U. S. Children's Bureau, and S. M. Keeney, Regional Director for Southeast Asia, UNICEF

"The Importance to Industry of WHO and Better World Health"—Dr. Robert Collier Page, Faculties, Industrial Medicine, Harvard and New York Universities; General Medical Director, Standard Oil Company of New Jersey

Whole Wheat

IN ITS MOST DELICIOUS, CONVENIENT FORM

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WHEAT CHEX!

WHEAT CHEX is made of whole wheat, ready to eat as it comes from the package.

It's bite size for easy eating. Specially prepared for easy digestion. Has a delicious flavor that stimulates lagging appetites. Lasting crispness in cream or milk to make the last bite as tempting as the first.

Specify **WHEAT CHEX** for breakfast—for between-meal and bedtime snacks instead of sweets.

DELICIOUS! NUTRITIOUS!
IT'S WHOLE WHEAT!

"Citizen Responsibility Toward the UN and Its Specialized Agencies"—Dr. Ralph J. Bunche, Director, Department of Trusteeship, United Nations

"United States Interest in Better World Health"—Durward V. Sandifer, Deputy Assistant Secretary of State for UN Affairs

"Vignettes from the Field," a 30-min. WHO drama with slides, was presented. Six "working parties" discussed various aspects of world health and presented reports which were read at the end of the Conference.

Flora Stephens of Washington served as A.D.A.'s official representative at the meeting.

National Restaurant Convention. Chicago is host this month to the 1953 National Restaurant Association Convention, being held May 12 through 15.

Food shows, under the direction of Col. Paul P. Logan, Director of Research, National Restaurant Association, will be a special feature of the program. Demonstrations of fish cookery, including boiling a live lobster, poaching fresh salmon, preparing fillet of striped bass Atlantique, stuffing mountain trout, and deep-frying shrimp and preparing shrimp Carmencita, will be given. Other features of the food shows are demonstrations of: (a) "take-home" food service, to show restaurateurs how to establish a take-out department, including equipment purchases and product merchandising; (b) freezing of cooked foods; and (c) pie baking.

Kathryn Bruce, Educational Director, National Restaurant Association, will conduct a round-table discussion on *Employee Training, Recruiting, and Communications*. A dramatic skit on employer-employee relations is also scheduled.

Food Technologists' Convention. The 13th Annual Meeting of The Institute of Food Technologists will be held in Boston, June 21 through 25. Sessions during the meeting will be devoted to such subjects as: the future of the U. S. food industry, with special emphasis on proper food for older persons; fermented products; chemicals in foods; fish and fishery products; canning and processing; food packaging; and fruits and vegetables.

Honors at the meeting will go to Dr. Samuel Cate Prescott of the Massachusetts Institute of Technology who will receive a citation at a general assembly honoring him for distinguished leadership in the application of science to food technology. Dr. Prescott was the first president of The Institute of Food Technologists, and is considered the founder of scientific principles of canning.

The 1953 Nicholas Appert medal will be presented to Victor Conquest, Vice President in Charge of Research in Development, Armour and Company. In this capacity he has guided the development of sugar-free dried eggs, known as egg solids, which are readily accepted in lieu of fresh or frozen eggs. He also holds a patent on a process for preparing soft curd milk for infants and invalids.

Courses in Diabetes Control. Plans are being made for six one-week courses for training in diabetes control, which will be held in the near future at the Diabetes Study and Training Center in Boston. Sponsored by the Division of Chronic Disease and Tuberculosis, U. S. Public Health Service, the courses will be designed for dietitians, nutritionists, public health administrators, physicians, nurses, health educators, medical technologists, and medical social workers. The programs will consist of discussions, demonstrations, and field trips, with opportunities for individual consultation. The courses will be:

(a) *Group Teaching of Patients* (May 25–29, October 5–12, November 30–December 4)—primarily for personnel concerned with organizing and conducting group classes for patients with diabetes and their families.

(b) *A Diabetes Program in Public Health* (September 21–25)—for all categories of public health workers involved in the planning and operation of diabetes public health programs.

(c) *Nutritional Aspects of a Public Health Diabetes Program* (dates to be announced)—for dietitians and nutritionists in public and private health agencies and hospitals.

(d) *Nursing Aspects of a Public Health Diabetes Program* (dates to be

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Canned Bartlett Pears Nutritive Chart*

2 Halves	Approximate Measure	
100	gms.	Weight
50	cal.	Energy Value
0.2	gms.	Protein
0.1	gms.	Fat
12.1	gms.	Carbohydrate
.013	gms.	Calcium
.0003	gms.	Iron
15	I.U.	Vitamin A
3	mcgm.	Ascorbic Acid
10	mcgm.	Thiamine
15	mcgm.	Riboflavin
100	mcgm.	Niacin

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126 South 2nd, Yakima, Wash. 444 Market St., San Francisco

Pacific Coast
CANNED PEARS

I'M Mike Zavislan of Wear-Ever's New York Office. I was calling on the new dietician of a big hospital some years ago, and arrived to find her purring like a cat. Pointing to a steam jacketed kettle full of onions, she told me, "Everything cooks so B-E-A-U-T-I-F-U-L-L-Y in your Wear-Ever aluminum kettle."

I decided this gave me a good opening to get across my favorite story. First, I placed one corner of an aluminum tray over a lighted gas burner. Then I spread some pancake batter on the opposite corner, well away from the heat. The pancake cooked perfectly, and in just about the usual time.

Was she surprised! I went on to explain that, since aluminum spreads heat quickly, foods prepared in aluminum utensils cook uniformly, without scorching or burning. That's because the heat comes from the sides and top, as well as the bottom.

She asked if this spreading of heat meant faster cooking, and I said that in many cases it did.

The clincher came when I showed her that, since aluminum spreads heat quickly, it cools fast by dissipating the heat of its contents. Thus cooking stops more quickly in aluminum when heat is turned off, giving a chef accurate timing and fidelity to his recipes.

She gave me a nice order for her dealer, and today her kitchen is almost 100% Wear-Ever Aluminum. Why not find out about the advantages of Wear-Ever for your kitchen? Just mail the coupon for informative 16-page booklet, or ask your dealer.

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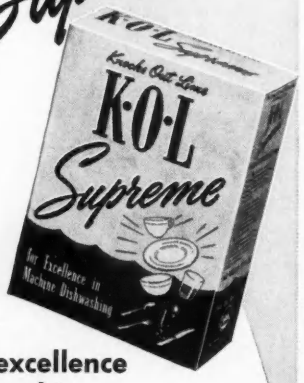

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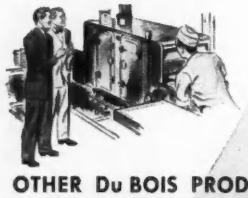
For perfect results, in any dishwashing machine, see Du Bois' ELECTRONIC CONTROL. With laboratory precision, it maintains exact solution strength, assuring cleaner tableware with greatest economy.

Combined with a better product Du Bois' superior service assures trouble-free dishwashing operation which easily meets the most rigid health department requirements. Glassware, silver and dishes not only are strictly sanitary, they look inviting, sparkling clean.



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announced)—for nursing personnel in health departments, voluntary agencies, hospitals, clinics, and industry.

(e) *Laboratory Aspects of a Public Health Diabetes Program* (dates to be announced)—for medical technologists in health agencies and hospitals who are concerned with methods of determination and the merits of various blood sugar tests, operation of a mass detection program, and problems associated with collection, shipping, and storage of blood.

(f) *Organization and Management of a Diabetes Clinic* (dates to be announced)—for personnel concerned with the functioning of a diabetes clinic. This course will be sponsored and given in cooperation with the clinical staff of a large Boston hospital.

Enrollment in each course is limited to ten persons. No registration or tuition fee is required. Further information and application forms may be obtained from: Diabetes Study and Training Center, Public Health Service, 639 Huntington Avenue, Boston 15.

Michigan State Graduate Programs. Michigan State College, East Lansing, has recently announced two graduate programs: one is designed to prepare the person with an undergraduate major in foods and nutrition for research and college teaching positions in foods, the other is a training program for community nutritionists.

The program for teachers and research workers may be planned to lead to a master's or a doctorate degree and is open to people with a bachelor's degree with a major in foods and nutrition or physical science. The doctorate requires three years of full-time work, two of which should be beyond the work for the master's degree.

The master's degree in community nutrition may be earned under either of two plans, in one of which the major credit is in foods and nutrition with a minor credit in social service, while the other requires major credit in nutrition and minor credit in field work in public health. The degree is earned after three terms of academic study at Michigan State and a one-year apprenticeship with the Michigan Department of Public Health, followed by a final term of study at the College.

Detailed information about these programs may be obtained from Dr. Margaret A. Ohlson, Head, Department of Foods and Nutrition, Michigan State College, East Lansing.

Summer Workshops. A three-week summer workshop on "Nutrition in Growth and Development" has been planned at *Iowa State College*, Ames, to run from June 29 through July 18. The first portion of the activities will be devoted to "Growth and Development," while the second five days will be concerned with "Food Habits and Nutritional Status." During the last week, the general topic of discussion will be "Nutrition Education—National and International Programs." For those students participating in all three weeks of the work, 4 credits will be earned. However, students may register for one, two, or three weeks. Detailed information about the workshop is available from Dr. Ercel S. Eppright, Foods and Nutrition Department, Iowa State College, Ames. Reservations should be made before June 1.

Two workshops will be offered this summer by the Department of Foods and Nutrition, *Michigan State College*. The first—on "Patterns of Food Intake"—will be offered from June 22 through July 14, to study the significance of environmental factors influencing patterns of food selection and to evaluate modifications of existing patterns for improvement of nutrition. July 6 through 12 will be the dates for the workshop in "Public Communication Techniques of Foods and Nutrition," which will cover adaptation of subject matter and basic skills of foods and nutrition to journalism, radio, and television. Further information and reservations may be obtained from: Dr. Margaret A. Ohlson, Head, Department of Foods and Nutrition, School of Home Economics, Michigan State College, East Lansing.

Community Nutrition Institute. Syracuse University's College of Home Economics and the Nutrition Bureau, New York State Department of Health, will again co-sponsor a Community Nutrition Institute at Syracuse University, to be held this year from June 14 through 27. It is planned for nutritionists, dietitians, physicians, public health nurses, health educators, and other interested persons. The two-week session will open with a presentation of future trends in nutrition. The implications of the general adaptation syndrome to nutrition will be considered, and the action of normal stresses on man will be discussed in the light of their effect on his nutrition. A study of the public health problems of diabetes and rehabilitation will follow. The role of nutritionists will be related to the various aspects of these problems and a critical study will be made of teaching methods and materials. Further information may be obtained from: Dr. Anne Bourquin, Chairman, Department of Food and Nutrition, Syracuse University, Syracuse 10, New York.

Food Technology Course. The Massachusetts Institute of Technology is offering again this year a three-week Special Summer Program in Food Technology from June 29 through July 17. This course is designed to enable those in the food industry to study recent developments in food manufacture and control. It will include discussions of food origin and composition as well as food processing, handling, transportation, storage, and control.

Lectures to be given will include the following topics: flavor and food acceptance; food bacteriology, sanitation, and fermentations; food chemistry and nutrition, including the use of "tracer" elements; and sterilization of food by electronics. Also included will be detailed studies of processing of various foods.

Further information may be obtained

How to make MUFFINS and influence appetites!

Here's DOLE's muffin variation to interest two or three or a hundred hard-to-please appetites. Prepare a plain muffin batter (based on 2 cups of flour). Make a depression in the batter of each muffin cup, and in it place 1 teaspoonful of the following mixture:

- ¼ cup brown sugar (firmly packed)
- ¼ teaspoon cinnamon
- 2 tablespoons melted butter

Top each muffin with 1 teaspoon drained DOLE "Crisp-cut" Crushed Pineapple. Bake in a preheated oven, 400°, for 20-25 minutes or until lightly browned.

You'll find this idea will work into your planning easily—it's a fundamental recipe with a simple taste-tempting twist.

Patricia Collier, DOLE Home Economist, 215 Market Street, San Francisco 6, California

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Tomato Juice
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CELLU SOYAMAISE (Green Label)—A tangy mayonnaise type dressing made from soy bean oil, eggs, vinegar, without added salt. Sodium content only 36 mg. in 100 grams.

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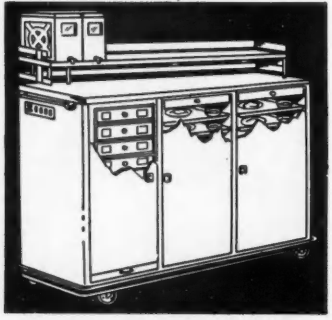

NOW your patients can be served meals that are kitchen-fresh and appetizing. No more slow, old-fashioned serving... Serve 18 patients in less than 18 min. with model illustrated. The labor-saving Meals-On-Wheels system assures swift, smooth tray assembly on the floor with Hot foods HOTTER—Cold foods COLDER.

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from: Dr. Ernest H. Huntress, Director, Summer Session, Room 3-107, Massachusetts Institute of Technology, Cambridge 39.

WMSC News. The Women's Medical Specialist Corps of the Army has recently strengthened its procurement program by staffing a Procurement Officer in each Army area. Information on Army service, as well as appointments for personal contacts, may be obtained by writing to the following officers:

First Army: Maj. Felie W. Clark, WMSC, Procurement Officer, Headquarters First Army, Governors Island, New York 4

Second Army: Capt. Mary K. Behlen, WMSC, Procurement Officer, Headquarters Second Army, Fort George G. Meade, Maryland

Third Army: Lt. June E. Handschy, WMSC, Procurement Officer, Headquarters Third Army, Fort McPherson, Georgia

Fourth Army: Capt. Fuchsia L. Johnson, WMSC, Personnel Division, Headquarters Fourth Army, Fort Sam Houston, Texas

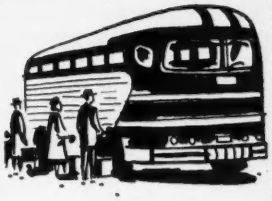
Fifth Army: Capt. Mabel Eisele, WMSC, Officer Procurement Division, Army Medical Section, Headquarters Fifth Army, 1660 East Hyde Park Blvd., Chicago

Sixth Army: Capt. Gertrude J. Murray, WMSC, Chief, Women's Medical Specialist Corps Branch, Army Medical Section, Headquarters Sixth Army, Presidio of San Francisco, California

Booklet on Dietetic Foods. *Dietetic Canned Foods, Fruits and Vegetables: Sodium and Proximate Composition* is the title of an attractive, sixty-two-page booklet recenlly published by the National Canners Association. Data for the booklet, edited by Dr. Franklin C. Bing, were collected and published under the direction of the National Canners Association-Can Manufacturers Institute Committee on Nutrition. Included in the text are: a discussion of low-calorie, diabetic, and low-sodium diets and canned foods suitable for them; the industry research program on dietetic canned foods; interpretation of analytical data (proximate composition and sodium content); labeling of dietetic canned foods; and artificially sweetened canned fruits. The appendix presents tables on the proximate composition and sodium and potassium content of fruit and vegetable products canned without added salt or sugar, as well as a statement by the Food and Drug Administration and a bibliography. This publication is available as a public service from the National Canners Association, 1133 20th Street, N.W., Washington 6.

Journal of Agricultural and Food Chemistry. April 1 heralded the birth of a new periodical, the *Journal of Agricultural and Food Chemistry.* Published by the American Chemical Society, this biweekly magazine will cover the whole field of agriculture, food, and nutrition. Through reporting on the com-

Toffenetti chooses BLAKESLEE
for new Greyhound Terminal Restaurant



RIGHT—*Mr. D. L. Toffenetti inspects two new Blakeslee 8583 dishwashing machines that are being installed in the two modern kitchens of his new restaurant in the Greyhound Bus Terminal in Chicago.*

LEFT—*These stainless Steel Blakeslee-Built dishwashing machines have a basketless conveyor with molded Nylon pegs set in molded plastic slats. No metal can scratch or chip the dishes which pass through the machine in an upright position for better draining and drying.*

Mid a maze of pipes, paint and plaster, one can see the emergence of a show-place restaurant in the magnificent new Bus Terminal in Chicago. D. L. Toffenetti is opening his ninth dining place—a lavishly planned project with a seating capacity for 600 persons. Eight thousand meals a day can be served to Chicagoans and to travellers boarding the 800 buses that will daily use the new terminal. For his two kitchens, Mr. Toffenetti has chosen Blakeslee-built kitchen machines to maintain the efficient service and sanitation for which he is justly famous. In addition to the two dishwashing machines pictured, the new kitchen will boast two Blakeslee GW5 glass washers and two 50B vegetable peelers. Here is the latest in money-saving equipment for the greatest efficiency in kitchen operation. These installations were made by Albert Pick & Co., Chicago.

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PEELERS • MIXERS AND ACCESSORIES
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NATIONAL RESTAURANT CONVENTION
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mon bond, chemistry, it will tie together the work in agronomy, entomology, food processing, nutrition, and the other sciences involved in feeding the world. James M. Crowe is Executive Editor of the new journal, and Dr. Richard L. Kenyon is Managing Editor.

Agricultural Research. A new publication, titled *Agricultural Research*, was launched by the Agricultural Research Administration, U.S.D.A., in January. The purpose of this publication is (a) to furnish new research findings to those working directly with farmers, processors, marketing agencies, and the general public; and (b) to provide progress reports to federal and state research workers, research organizations, and members of Congress. Publication of *Agricultural Research*, now bimonthly, will be monthly after July. Subscriptions may be ordered to begin with the July issue, from the Superintendent of Documents, Government Printing Office, Washington 25, for $1 yearly. Single copies may be purchased for 15 cents each.

Food and Nutrition Board Survey. About three thousand research projects have already been listed in the third survey of food and nutrition research being conducted by the Food and Nutrition Board, National Research Council. July 1 has been set as the final deadline for receipt of information to be included in this report. In its final form projects will be listed under eleven headings: nutritional requirements, digestion and metabolism, nutritional deficiencies, nutrition surveys, methodology pertaining to nutrients, enzyme and hormone chemistry, food composition, factors affecting nutritive value, microbiology, food acceptance, and nutrition education. Also included in the final report will be a register of workers in this field, a list of the organizations conducting and/or supporting the research, and a subject index. A new feature will be the inclusion of suggestions for food and nutrition research projects in areas where further work is indicated.

Frozen Food Research Program. A five-year research program to study frozen foods was recently launched by the National Association of Frozen Food Packers. The program, on which an estimated $200,000 will be spent, will be carried out through grants-in-aid to universities.

In 1953–54, samples of some 35,000 regular production packages covering forty-five frozen fruits, juices, and vegetables will be analyzed for twenty-one nutrients. Plans for the following years include study of ways storage and distribution affect frozen foods, nutrient retention during processing, and cooking techniques for both home and institutional use.

Victoria Dietetic Association News. "Catering for the Aged," a talk given by Colonel Elliott, Manager, Mount Royal Home for the Aged, was the feature of the Victoria (Australia) Dietetic Association's October meeting. The group met in November to hear Dr. Betty Wilmot discuss "Child Nutrition." Her talk was accompanied by filmstrips showing the analysis of a school medical survey which she conducted in Northwest Tasmania. Lucile Rust, an American Fulbright scholar, spoke on dietetics in the U. S. at the December meeting. She emphasized the part that A.D.A. plays in maintaining educational standards for dietitians.

New Omicron Nu Chapter. Alpha Pi Chapter of Omicron Nu was installed at the University of Massachusetts in November, by Dr. Miriam E. Lowenberg, national president. The chapter will be represented by an official delegate at the Omicron Nu Conclave at Iowa State College, June 19 through 21.

New Association. In February the National Institutional Wholesale Grocers' Association was formed with the purpose of fostering and promoting the welfare and protecting the interests of distributors of food products to institutional users. President of the new organization is Robert W. Lannan, Executive Vice President, Aslesen Company, Minneapolis. Included on the Board of Directors is Sherman J. Sexton, President, John Sexton & Company, Chicago.

Elva Ann George. The A.D.A. office has been notified of the death on January 15 of Elva Ann George in Miami. Miss George was prominent in the field

HOTEL RESERVATIONS
Los Angeles

36th Annual Meeting, August 25-28, 1953

Please make your hotel reservations for the 36th Annual Meeting of The American Dietetic Association through: THE CONVENTION AND VISITORS BUREAU, 1151 SOUTH BROADWAY, LOS ANGELES 15, CALIFORNIA. The Bureau will accept either the form given below or a letter containing equally specific information. You will receive confirmation of your reservation.

The Shrine Civic Auditorium and Convention Hall, where daytime meetings and exhibits will be held, are approximately 3 mi. from the hotel area. The hotels listed below are located within a few blocks of the Statler Hotel, the headquarters hotel.

Order of Choice	Hotel	Single	Double	Twin Beds
_____	Statler (headquarters)	$6.50–15	$9.00–16.00	$10.00–20.00
_____	Biltmore	5.50 up	8.50 up	9.00 up
_____	Mayfair	4.50 up	6.50 up	7.50 up
_____	Commodore	3.50 up	5.00 up	6.00 up
_____	Clark	4.00– 6	4.00– 7.00	6.00– 8.00
_____	Mayflower	5.25– 8	5.25– 8.00	5.75– 9.00
_____	Savoy	4.00– 5	5.00– 6.50	5.50– 6.55

☐ With single bed (very scarce; arrange for double occupancy if possible)

☐ With double bed (for two persons)

☐ With twin beds

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(Name of person who will share your accommodation)

Meat...

and the Low Sodium Diet

The beneficial effect of sodium restriction in the management of hypertension and many types of cardiac disease is firmly established. A low sodium diet aids in preventing edema and frequently leads to a significant reduction in arterial tension.

To emphasize the importance of sodium restriction and to enable the physician to present his patient with an informative discussion of the subject, The American Heart Association has just published a valuable pamphlet entitled "Food For Your Heart."* Covered also in this booklet is the importance of weight reduction in the management of the cardiac patient.

Dietary recommendations for three levels of sodium restriction are given. In all of them, meat is an important constituent of the diet. In the diet providing moderate sodium restriction (0.5 to 1.5 Gm. of sodium), 4 to 6 ounces of unsalted meat, fish or fowl are allowed. In severe restriction (0.5 Gm. sodium), 3 to 4 ounces of meat are permitted daily. The weight reduction-moderate sodium restriction diet calls for 5 to 6 ounces of meat daily.

This booklet again emphasizes the valuable application of meat in the dietary management of cardiac disease, hypertension, and obesity. Since, as the manual emphasizes, infectious diseases and such scourges as typhoid fever have now been controlled with antibiotics, chemotherapeutic agents and modern sanitation, "many physicians and scientists consider nutrition the most important environmental factor in health."

Meat, with its wealth of high quality protein, B complex vitamins and important minerals, plays an important role in the aim toward better national health. That the generous consumption of meat by the American people is a significant factor in attaining this goal is reflected in the statement that "most physicians feel that the high American consumption of protein is a good thing."

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*Food for Your Heart, a Manual for Patient and Physician, Department of Nutrition, Harvard School of Public Health, Harvard University, The American Heart Association, Inc., New York, 1952. Copies available through local Heart Association.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute
Main Office, Chicago...Members Throughout the United States

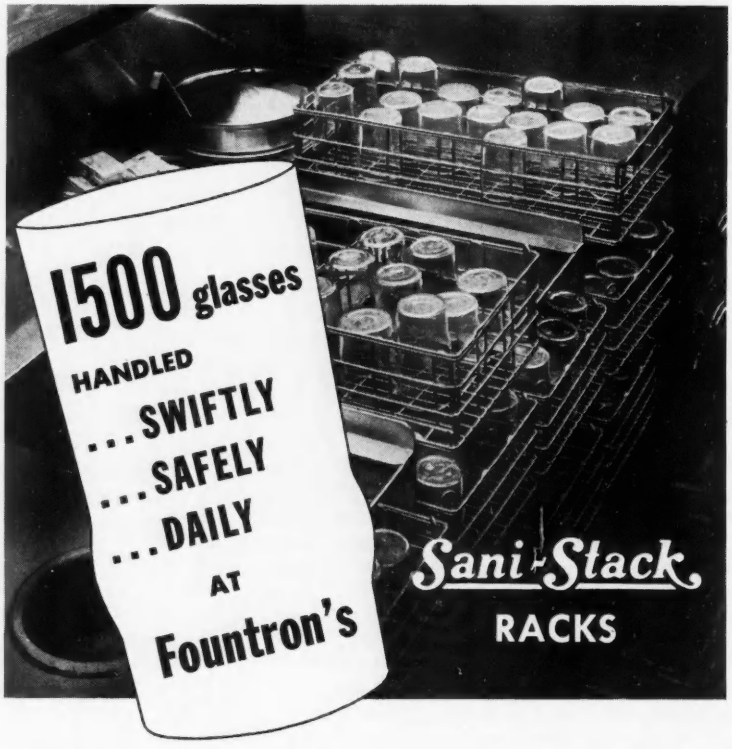
of dietetics, particularly in the early days of its development. She was an early member of The American Dietetic Association, and it was also through her efforts, in great part, that the Greater New York Dietetic Association came into being.

Miss George was a graduate of Pratt Institute, Brooklyn, and was one of the first dietitians employed by the City of New York under the Department of Charities, later the Department of Hospitals. When the United States entered World War I, she was selected to head the dietetic service of the American Red Cross, in which capacity she served with distinction. Returning to New York, she again entered the service of the city as Departmental Dietitian of the Department of Welfare, now Hospitals.

In 1942 Miss George retired, going to Florida to live.

Hazel Williams Lapp. Word has been received of the death of Hazel Williams Lapp in College Park, Maryland, on March 7. Mrs. Lapp, who had been an A.D.A. member since 1942, had been on the home economics staff of the University of Maryland. She also served in Berlin with the occupational forces shortly after World War II.

Sister M. Elizabeth Fey. The A.D.A. office has learned of the death of Sister M. Elizabeth Fey of Our Lady of Lourdes Memorial Hospital, Binghamton, New York. Sister Elizabeth had also been on the staffs at St. Agnes Hospital, Baltimore, and St. Mary's Hospital, Saginaw, Michigan. She had been a member of the Association since 1936.



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In laying out the food service facilities, Mr. Frank Hilliker, consultant on the job, used all the latest devices, including Sani-Stack racks, to save time, work, labor and speed up service.

Used glasses are placed in Sani-Stack racks on a conveyor, carried to the washing machines and returned to the service station with only one handling. The open construction of the wire racks insures complete washing in shortest time. Their sturdy construction assures years of service.

Sani-Stack racks are available for dishes, glasses, cups, trays, silverware, etc. in sizes to fit every washing machine. They are saving time and cutting breakage in eating places everywhere. They can save you money, too. Write for full information.

See our exhibit at Booth 201–202, National Restaurant Show

Metropolitan WIRE GOODS CORPORATION
70 Washington Street, Brooklyn 1, N.Y.

News of State Associations

California Dietetic Association. Vocational guidance activities of the California Dietetic Association have been tied in chiefly with the activities of the state's Career Information Committee of the Auxiliary Medical Services. This is a joint committee of dietitians, physical therapists, and occupational therapists which was organized in September 1951 for the purpose of publicizing the three professions. Kits, consisting of brochures, sample news releases, wire recordings for spot radio announcements, and slides for TV spots, have been provided. A brochure, "Western Outlook for Dietetics, Occupational Therapy, Physical Therapy" has been prepared by a subcommittee, and a questionnaire was sent to all dietetic interns in California, Washington, and Oregon to learn how they became interested in dietetics. The results indicate that the largest number were "sold" by a teacher. Next in importance as sources of information were friends in the profession or fellow students. Also important in reaching the choice of career were: brochures, relatives in the profession, high school and college career speakers, and vocational guidance counselors.

Dr. Peter Forsham, Director of the University of California Hospital's Metabolic Unit, addressed members of the *Bay Area* of the California Dietetic Association at their February meeting. His topic was "What's New in Metabolic Diseases."

The *Central Valley Section* in November met in Fresno to hear Dr. John P. Conrad discuss "Nutrition and Children's Diseases." In February, at the VA Hospital, Fresno, the meeting featured Dr. Leslie Gould, Psychiatrist, who spoke on "Psychiatric Patients and Their Care."

In *San Diego*, dietitians meeting in February at the Rees-Stealy Clinic heard Dr. William J. Tighe speak on "Radioactive Isotopes." He reviewed the structure of isotopes, their use in identifying and treating disease, and laboratory equipment used with slides.

The *San Jose Section* met in January for a report on civil defense activities by Alistar Anderson, Head of the local American Red Cross chapter. Mr. Anderson's talk was illustrated with a film showing the results of an alert for an atomic attack. In February the group heard Dr. Gordon W. Newell, Stanford Research Institute Biology Laboratory, lecture on "Chemical Additives in Foods."

The *Santa Barbara-Ventura Section*, in cooperation with the Adult and Evening School and the Santa Barbara County Medical Association, in January and

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A *single* call to *one* man—*your dependable Armour salesman*—brings you prompt delivery on your choice of a wide variety of quality products.

Since the turn of the century, the Hotel and Institutions Department of Armour and Company has offered specialized service to hotels, clubs, restaurants, schools and resorts on all of these quality products.

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February held a series of six weekly lectures on "Nutrition and Diabetes." Four physicians and three dietitians participated in the program.

Indiana Dietetic Association. "The Human Side of Research in Human Nutrition" was the topic discussed by Dr. Ruth M. Leverton, University of Nebraska, who addressed members of the Indiana Dietetic Association in February.

The Indiana Association's spring meeting was held in Indianapolis, April 29 and 30.

Iowa Dietetic Association. The spring meeting of the Iowa Dietetic Association was held at Iowa State College, Ames, in April. Speakers included: Dr. Samuel Lepkovski, Food and Agriculture Organization; Dr. Floy Eugenia Whitehead, Wheat Flour Institute, Chicago; and Drs. Gladys Everson and Grace M. Augustine, Iowa State College. Drs. Ercel S. Eppright and Pearl Swanson of Iowa State College and Dr. Genevieve Stearns of the State University of Iowa reported on the National Nutrition Institute held in Washington in December.

Three students and a dietetic intern were awarded scholarships of $75 each by the Iowa Association, to be applied toward their internships. They are: Margaret Prout, Clarke College; Alice Lawrence, Iowa State College; Josefina Manrosa, University of Iowa Hospitals; and Shirley King, State University of Iowa.

Members of the *Ames Dietetic Association* entertained seniors and graduate students from the Departments of Foods and Nutrition and Institutional Management, Iowa State College, in November.

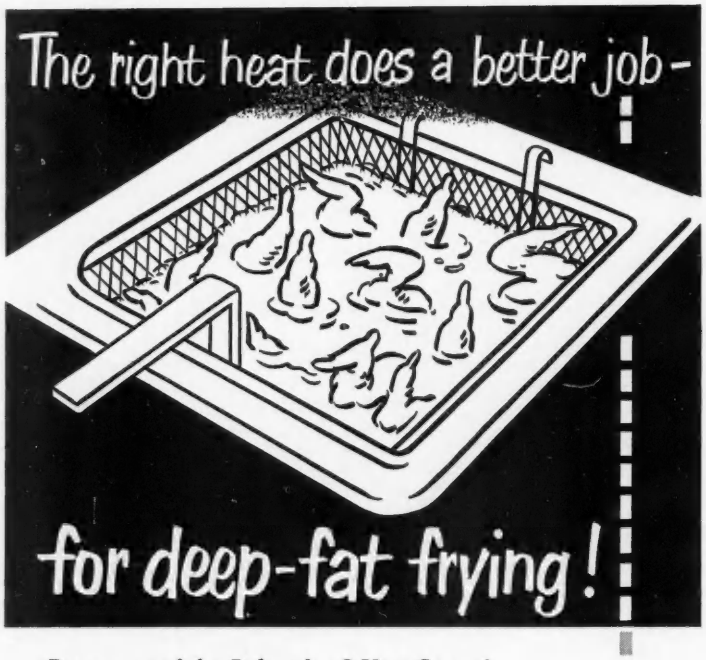
The *Iowa City Dietetic Association's* November meeting featured Dr. William D. Paul, Department of Internal Medicine, State University of Iowa, who addressed the group on poliomyelitis.

Kansas Dietetic Association. Community Nutrition Section members of the Kansas Dietetic Association this year are fighting food fads. This activity is concerned with: specific food misinformation, what and who is responsible for disseminating it, and methods that can be used in combating it. Kansas dietitians are offering to talk on this subject when asked to speak before community or civic organizations, and the Community Nutrition Section is providing outlines for them giving potential material on food misinformation, including food fads.

Kentucky Dietetic Association. The 19th annual meeting of the Kentucky Dietetic Association was held in Lexington, March 27 and 28. Dr. C. Howe Eller, Louisville Board of Health, spoke on "Sanitation in Relation to Foods," and Dr. Cecilia Schuck, Purdue University, discussed "New Facts and Theories in Nutrition." Grace Bulman, President-Elect, A.D.A., spoke at the luncheon on "On Our Toes in Everyday Doings." "Nutritional Requirements of the Aged" was the topic of Dr. Ernestine B. McCollum, The Johns Hopkins University, and Miss Bulman spoke again, on "Modifying the Diet." Marie C. Harrington, Dairy Council of St. Louis, addressed the group on "Be Ye Doers," which was followed by a discussion panel. "What's Back of Public Relations" was the title of a talk by W. A. Wentworth, The Borden Company. Dr. Ruth M. Leverton, University of Nebraska, spoke on "The Merry-Go-Round of Weight Control."

The Professional Education Section of the Kentucky Dietetic Association is sponsoring a project to sell UNESCO Gift Stamps. The proceeds will be used to equip a nutrition laboratory in Manila, for use of all agencies in the Philippines.

Missouri Dietetic Association. Missouri members joined with Kansas dietitians for the spring meeting on April 16 and 17, held concurrently with the Midwest Hospital Association. Lucile Rust of Kansas State College began the program with a talk on feeding problems in Australia. Current research was discussed by Dr. Margaret Mangel of the University of Missouri and by Dr. Gladys Vail of Kansas State College. Another talk was on community nutrition with respect to food misinformation. A panel on "What's New in Service, Products, and Personnel" included: Ruth Gordon, University of Kansas Medical Center; Harry Pope, Pope's Restaurant, St. Louis; Eve DeMariano,



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INSIDE SCIENCE

The Vital Story of MACARONI* ENRICHMENT

by Science Writer

This is the fourth article in a series devoted to the story of cereal enrichment

Dramatic results have been recorded about the value of enrichment in improving health. From the United States, the Bataan peninsula in the Philippines, Newfoundland and many other parts of the world comes word of the great benefits which result from enrichment.

For years, some forward-looking manufacturers of macaroni and noodle products have used enrichment to make their good foods better. They know that enrichment restores important vitamin and mineral values which are unavoidably lost in milling, and they recognize their responsibility to provide the greatest health-building benefits for the public.

Enrichment is really a simple process. It adds the following essential elements to the food during manufacture.

Thiamine—also called vitamin B_1. This vitamin helps to build physical and mental health. It is essential for normal appetite, intestinal activity and sound nerves.

Riboflavin—also called vitamin B_2. This vitamin helps to keep body tissues healthy and to maintain proper function of the eyes. It is essential for growth.

Niacin—another "B" vitamin, is needed for healthy body tissues. Its use in the American diet has done much to make a serious disease called pellagra disappear.

Iron—is a mineral used in all enrichment. It is essential for making good, red blood and preventing nutritional anemia.

Products made from semolina may be enriched by two methods. One uses small square wafers which contain all the vitamins and iron necessary to enrich 100 lbs. The wafers break up in a small amount of water which is then added to the paste. For manufacturers who use the continuous press method, a powdered concentrate of the vitamins and iron, called a premix, is available. This is added by a mechanical feeding device.

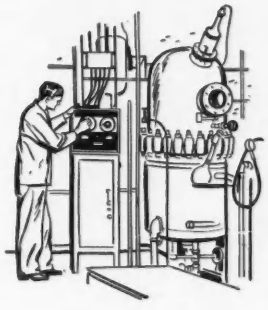
**Macaroni is used here in the generic sense. It includes all alimentary pastes: macaroni, spaghetti, pastina, noodles.*

These are the minimum and maximum levels, in milligrams per pound, required by the Federal Definitions and Standards of Identity for enriched alimentary pastes.

	Min.	*Max.*
Thiamine (vitamin B_1)	**4.0**	**5.0**
Riboflavin (vitamin B_2)	**1.7**	**2.2**
Niacin	**27.0**	**34.0**
Iron	**13.0**	**16.5**

NOTE: These levels allow for 30% to 50% losses in kitchen procedures.

Nowadays scientists are able to "build" duplicates of many of Nature's essential complexes in the laboratory. This has happened with many vitamins. First the chemical composition is learned and the pure substance is isolated. Then a "duplicate" is made which is identical chemically and biologically with Nature's product. A vitamin is a vitamin regardless of its source just as salt is salt whether it comes from a mine or is evaporated from the sea. So efficient is large scale manufacturing that vitamins are sold at a lower cost than if they were extracted from natural sources.



The Hoffmann-La Roche people, who produce a good percent of the vitamins used in enrichment, use amazingly complex processes with scientific production controls. This requires modern, special equipment filling whole buildings, each one a city block square and many stories high.

The combination of scientific research, thorough know-how and mammoth manufacturing processes—plus the far-sightedness of leaders in the macaroni industry—is helping vitally to make good macaroni products better.

This article, reprints of which are available without charge, is published as a service to the macaroni industry by the Vitamin Division, Hoffmann-La Roche Inc., Nutley 10, New Jersey. In Canada: Hoffmann-La Roche Ltd., 286 St. Paul Street, West, Montreal, Quebec.

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Director of Food Production and Service, TWA; and Bessie Brooks West, Kansas State College. Lida A. Jamison was the A.D.A. representative at this meeting.

New York State Dietetic Association. Syracuse was the scene of the New York State Dietetic Association's 23rd annual convention, held April 22 through 24. The program included the following speeches:

"Who Helps the Dietitians?"—Paul Gordon, Dr. Robert N. Wilson, and Edith Lentz
"Our Profession on the March"—Grace Bulman
"Let Your Head Save Your Heels"—Dr. Orpha Mae Thomas
"Current Trends in Frozen Foods"—Dr. Jean I. Simpson
"Professional Women in the Modern World"—Dr. M. Eunice Hilton
"Diet and Heart Disease"—Dr. Richard H. Lyons
"Malnutrition in Hospitals"—Dr. Herbert Pollack
"Opportunities of a Dietitian"—a panel discussion

The *Hudson Valley Dietetic Association* met in February in Albany to hear Robert Jones discuss "Legal Aspects of Food Advertising."

North Carolina Dietetic Association. Members of the North Carolina Dietetic Association held their 18th annual convention in Durham in November. The convention opened with a panel discussion on "How Can We Extend the Service of the Qualified Dietitian?" At the second session, Dr. Louis G. Welt, Associate Professor of Medicine, University of North Carolina, discussed "Diet Therapy."

Officers of the North Carolina Dietetic Association for 1952–53 are: President, Mary Anderson, North Carolina Memorial Hospital, Chapel Hill; President-Elect, Rebecca P. Rogers, Watts Hospital, Durham; Secretary, Carolyn Flewellen, North Carolina Board of Health, Raleigh; and Treasurer, Mabel Gladin Rogers, Raleigh.

Ohio Dietetic Association. Three $200 scholarships have been awarded to senior dietetics students for their internships by the Ohio Dietetic Association. The students chosen for 1953–54 are: Kathryn Dale, University of Dayton; and Rita Mozzy and Gloria Green, both of Western Reserve University, Cleveland.

Oklahoma Dietetic Association. Oklahoma City was the scene of the Oklahoma Dietetic Association's 15th annual convention, held in March. Cora E. Kusner, Food Administration Section Chairman, A.D.A., and Director of Dietetics, Colorado State Hospital, Pueblo, was the national representative. She presented two talks: "Changing Concepts of Food Service for the Mentally Ill" and "Your Association and You." The program also included the following:

"Obesity"—Dr. Henry H. Turner, Oklahoma City
"The Eyes Have It"—Sherman P. Lawton, Speech Department, University of Oklahoma, Norman
"Equipment, Design and Installation"—L. J. Fretwell, Oklahoma Natural Gas Company, Tulsa
"Diet and Heart Disease"—Dr. Russel A. Huggins, Baylor University, Houston, Texas
"Changes in Concepts of Community Health Planning"—Joe C. Scott, President, Bankers Security Life Insurance Company, Oklahoma City
"The Application of Management Skills to Dietary Cost Control"—Isola Robinson, Dietetics Specialist, American Hospital Association, Chicago

Oregon Dietetic Association. The Oregon Dietetic Association's spring meeting was held in Portland on February 27. The program included a tour of the new Lincoln High School cafeteria and a talk on milk by Dr. G. A. Richardson, Borden Award winner, of the Dairy Industries Department, Oregon State College, Corvallis.

Pennsylvania Dietetic Association. The Pennsylvania Dietetic Association's annual meeting was held in Pittsburgh, April 22 through 24. The program included the following talks and panel discussions:

"Cost Control"—E. Alliene Mosso
"Diet Therapy Experience for the Stu-

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Special Chicken Salad
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Cut a tomato into three crosswise slices. Place stem-end slice on crisp lettuce, add a filling of chicken salad, then the center slice of tomato, another filling of chicken salad and the remaining tomato slice. Top with Miracle Whip and a slice of stuffed olive.

Miracle whip has a uniform quality and distinctive flavor you would find difficult to equal with any of your own carefully prepared dressings . . . plus offering the added advantage of eliminating costly preparation time.

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Community Planning—Lucia Bing
"Current Research in Nutrition"—Dr. Robert Olson
"The Significance of Food in Various Clinical States"—a panel discussion

Members of the Pennsylvania Dietetic Association, at the request of the Nutrition Coordinating Committee, Pennsylvania Medical Association, recently surveyed the kind and amount of nutrition instruction given to medical interns in Pennsylvania hospitals. Only four out of forty-four hospitals returning questionnaires reported that formal instruction is given. In three of these, A.D.A. members are the teachers. Fourteen hospitals give interns some type of instruction—i.e., conferences, out-patient clinics, and ward rounds, as well as exhibits by the dietary department and seminars on diabetes.

Washington State Dietetic Association. Seattle was convention headquarters for the Washington State Dietetic Association, May 1 and 2. Two panel discussions were presented. The first, "The Dietitian and Her Public" included a discussion of the needs and desires of the college student, the hospital patient, and the commercial customer. The second panel was titled "Is There a Better Way to Teach Student Nurses?" Mary W. Northrop, King County Hospital, Seattle, discussed the dietitian's approach; Helen H. Rainey, Instructor in Nursing Education, gave the nurse's views; Thelma Soule Rose, University of Washington, Seattle, spoke from the viewpoint of the college teacher; and Kathleen Leahy, Professor of Nursing, University of Washington, represented the public health nurse.

Cora E. Kusner, Colorado State Hospital, Pueblo, talked on "What Constitutes Executive Thinking?" Martha Dresslar, University of Washington, spoke on "Newer Developments in Food Processing and Packaging," and Dr. John Bakke, VA Hospital, Seattle, discussed obesity.

The State Paramedical Committee has made available several hundred posters designed for use in vocational guidance programs and as displays for the high school student. One poster features the three professions: dietetics, occupational therapy, and physical therapy, and there is an individual poster for each profession. Also available are sets of twenty-seven, 35-mm. Kodachrome slides with accompanying tape recordings—nine slides from each of the three professions. The Paramedical Committee also has twelve slides on dietetics with written script. The posters, slides, or any printed brochures on dietetics are available to anyone in the State of Washington who is interested in helping with the vocational guidance and public relations program.

Members of the *Seattle Dietetic Association* met in Fort Lawton in March to hear the Director of Food Supplies for Overseas at the Port of Embarkation discuss "Supplying Troop Ships for Overseas." A discussion of large-quantity feeding and supplies followed.

Wisconsin Dietetic Association. Members of the *Milwaukee Dietetic Association* are participating in the Wisconsin Council of Food Servers, which has prepared a training program for cooks and food service personnel. A "Conclave of Food Service Professionals" was held in March as a preliminary to the course, which will be offered at the Milwaukee Vocational School in September.

Association Activities

Representatives to State Meetings. The following national representatives attended state meetings:
April 24–25—Geraldine Piper, Alabama Dietetic Association, Montgomery
April 27—Ruth Yakel, North Dakota Dietetic Association, Minot
May 14—June Bricker, New Hampshire Dietetic Association, Hooksett
May 16—Henderika Rynbergen, Vermont Dietetic Association, Burlington

A.D.A. Exhibits. From April 22 to 29, the *food models* were used for the Iowa State Medical Meeting in Des

ARCHITECTS: COOLIDGE, SHEPLEY, BULLFINCH AND ABBOTT

use Van's long experience on hospital food service

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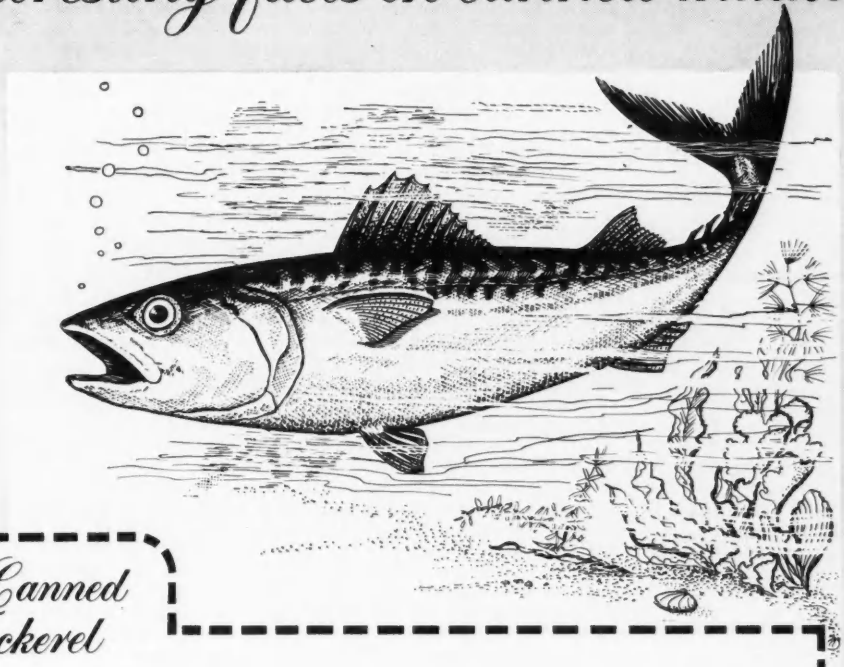
For your food file— interesting facts on canned mackerel

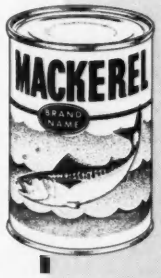


Canned Mackerel

Nutrient	Quantity of Nutrient Per Serving	Approximate Percentage of Daily Recommended Allowance*	Approximate Percentage of Minimum Daily Requirement**
Carbohydrate (available) (1)	0.42 gm.	—	—
Fat (1)	14 gm.	—	—
Protein (1)	20 gm.	29	—
Caloric Value (1)	209 calories	7	—
Calcium (1)	240 mg.	24	32
Phosphorous (1)	290 mg.	—	39
Iron (1)	2.0 mg.	17	20
Vitamin A (2, 5)	160 I.U.	3	4
Thiamine (3, 5)	0.039 mg.	3	4
Riboflavin (4, 5)	0.25 mg.	14	13
Niacin (3, 5)	8.1 mg.	54	—
Vitamin D (5)	265 I.U.	66	66

*Percentage based on recommended daily allowance for physically active man, except for Vitamin D values which are for children—National Research Council. **Percentage based on minimum daily requirement for adult over 12 years of age—Food and Drug Administration.

1. Food Research 11, 391 (1946)
2. J. Nutrition 28, 107 (1944)
3. J. Nutrition 28, 117 (1944)
4. J. Nutrition 28, 123 (1944)
5. J. Nutrition 34, 633 (1947)



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This attractive booklet is a guide to better food and food service in the small institution.

Based on normal nutritional requirements for adults, the menu patterns, sample suppers, and pointers on meal planning have their place in any household. Practical ideas for making the work of the manager easier and pleasanter include a weekly marketing guide, hints for economy in buying and storage, and suggestions for serving.

This is a project of the Diet Therapy Section of The American Dietetic Association.

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Moines. Helen Lovell, Nutritionist of the Iowa State Department of Health, reports that the exhibit was used to illustrate first, the normal diet; second, the normal diet as the basis of all modified diets; and third, the normal diet as the basis for the diabetic diet.

During March 23 through 26, the Fifth Annual Scientific Assembly of the American Academy of General Practice met in St. Louis. A.D.A. exhibited, on invitation, *The Adequate Low-Calorie Diet with Adaptations.* St. Louis dietitians manned the exhibit, under the chairmanship of Rosemary Burns, with the assistance of Clara Zempel from the Association office. A total attendance of 5300 physicians and guests was registered at the Assembly.

The most recent activity of the Exhibits Committee has been the revision of the Vocational Guidance exhibit, *Dietitians-Nutritionists Serve the Community.* Using the basic structure, the exhibit now features the message, *Be a Dietitian,* and focuses attention on a three-dimensional cut-out of a dietitian in uniform. A number of the career areas in the profession are shown by drawings, and attention is called to the following advantages in the field: unlimited employment opportunities; vital and interesting work; security; and training for homemaking. This exhibit made its debut at the Annual Convention of the American Personnel and Guidance Association in Chicago, March 29 through April 2. Martha Jane Moffit, general chairman, and other Chicago dietitians at the exhibit, reported that many favorable comments were received and that the exhibit attracted much attention.

Our large exhibits have received such favorable reactions at national meetings of allied associations that their respective state associations are becoming interested in using them. Requests have been received from dental and medical associations in the South, the Middle West, and the Far West for the *food model* and *proper weight* exhibits. Under the auspices of the Wisconsin Dietetic Association, *Achieve Your Proper Weight* was shown during the week of April 6 at the meeting of the Wisconsin State Dental Association in Milwaukee.

Library Committee. The A.D.A. Library Committee, with Elizabeth Tuft as Chairman, met in March and again in April, to evaluate present library material, which is being transferred into newly purchased files.

Membership Files Microfilmed. The entire A.D.A. membership files have been microfilmed as a precaution against fire and other emergencies. The film is stored in a safety deposit vault located outside the Chicago area.

National Representatives. On April 3 and 4, Dorothea F. Turner attended the semiannual meeting of the *Food and Nutrition Board* in Washington, as A.D.A.'s official liaison representative.

Jean Crooks represented the Association at the *Women's Conference on Civil Defense* at a dinner meeting held March 4, in Washington, D.C.

Grace Bulman was our official representative at the *National Federation of Business & Professional Women's Clubs Conference,* March 21 in Washington, D.C. The purpose of this conference was to inform the group of the kind of positions available in the government and the ways in which they are filled.

The Voluntary International Assistance Panel of the *U. S. National Commission for UNESCO* has held three regional conferences. Lucille Refshauge represented the Association at the first meeting in New York City; Capt. Nannie Evans at the second in Washington, D.C.; and Mary Reeves at the Chicago meeting. The program was explained as one which makes it possible for individuals and organizations to contribute to the improvement of health, education, and social conditions in underprivileged areas. Some of the state dietetic associations are participating in the UNESCO Gift Coupon Project.

The *National Conference on World Health* was held in Washington, D.C., April 6, 7, and 8. Flora Stephens represented the Association.

News of Advertisers and Exhibitors

S. Blickman, Inc. has introduced its 1953 line of Sealweld Coffee Urns. Constructed of stainless steel, the urns have bottom and vertical seams which are electrically welded into continuous water-tight seams. The usual filler cup is eliminated. Only one liner tube is used instead of two, because the coffee gauge glass is now connected to the coffee faucet. Detachable head coffee and water faucets; cool, shatter-proof plastic handles for covers and faucets; heavily chrome-plated bronze fittings; and stainless steel jar rings, liner fittings, and tubes are other new construction features of the urns. The new Sealweld line is available in a complete range of sizes and models.

General Foods Corporation this year will begin marketing a full institutional line of Birds Eye quick-frozen vegetables and fruits, as well as orange juice concentrate. This rapid expansion in the institutional field is the result of successful institution market testing of frozen vegetables last year. Among items available to the institution trade will be quick-frozen vegetables and French fried potatoes in 2½-lb. sizes, frozen fruit items in #10 containers, and orange juice concentrate in 32-oz. cans.

Another *General Foods* idea is the "Colorado Pan-San," a pancake sandwich with a sausage-and-tart-jelly filling, topped with Log Cabin Syrup. Alternative fillings, such as Canadian bacon and pineapple, give food service operators an opportunity to use other items they may have in good supply.

Hotpoint Company's new *Mark 313* is a deep-fat frying machine which can turn out 313 2-oz. servings of French fried potatoes in only 28 lb. fat. Other features are semi-automatic fat changeover, self-cleaning, 5-min. preheating, and virtually instantaneous heat recovery.